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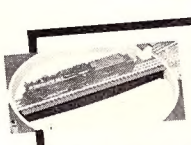

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Vol. 25, No. 1 June, 1956

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THE COVER: Many students of steam locomotive design claim that the New York Central Hudson type locomotive was the most beautiful and perfectly proportioned locomotive ever built. That's a Lionel 763 on the cover, no longer in production. Staff Photo

ABOUT OUR ADVERTISING: We believe that every advertisement in this issue is backed by a responsible individual. Every precaution is taken to admit reliable firms only. To make doubly sure, we will make good any loss sustained by readers by trusting any irresponsible or misleading advertisements. Also, when called upon, we will adjust differences that may occur between readers and responsible advertisers. Readers will be fully protected except when due to honest bankrupts sanctioned by the courts. Notice of complaints should be sent to us within one month of transaction and to identify it, you should mention Railroad Model Craftsman when writing the advertiser.

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A Letter From The Editor

AS we start our 25th Volume of RAILROAD MODEL CRAFTSMAN, we can't help but reflect at the growth of the model railroad hobby since those infant days of 1933. O gauge was the most popular scale in those days and yet at that time there were by far fewer O gauge scale modelers than there are today. HO scale was in its infancy and was yet to be popularized by Eric LaNal and many others. There was no such thing as two rail and ready-to-run could only mean the tinplate products of the big toy train manufacturers.

Model railroading was an intimate hobby with mail being the best means of communication between the widely scattered pioneers. The hobby shop was still to come and in only a few of the larger cities could any model railroad clubs be found.

Despite the shortages of parts and kits, the early builders set a high standard for the hobbyists who were to follow. Early scale locomotives can still take their place beside this year's products without shame or apology.

Whether to avoid the stigma of playing with toys or because of a keen sense of appreciation for the sleek design that went into the real thing, early builders favored sleek ninety foot Pullman cars and wide radius curves. There was no compromising and great pains went into counting the exact number of rivets on an engine cab, or measuring precisely the accuracy of the early commercial parts available.

The kits and models available today are vastly superior to anything offered in those early days, permitting enjoyment of model railroading by thousands who otherwise could never enjoy its pleasures because of lack of skill, money, or time.

RAILROAD MODEL CRAFTSMAN has come a long way in those years. We're proud of the fact that some of our original subscribers are still with us, along with some of those early advertisers. Yet in looking back, we must also look to the future and to our thousands of new readers, many of whom have yet to build their first scale layout. Our plans for the future include some of the finest projects and features ever to appear in a model railroad magazine. We hope you'll invite your friends to enjoy them with us.

Cordially,

Hal Carstens

Managing Editor

Next Month—

JULY issue will be packed from cover to cover with material aimed at summertime model railroading pleasure. . . . You'll finish Lloyd Giebner's slightly fabulous Old Cheyenne and join the Layout Doc as he outlines operations on a dilly of a model layout. And you O gaugers will have to hold your copies far enough away so that you don't drool on the pages, spoiling the step by step construction of a Barre & Chelsea wooden combine, a car so delightful and railroady you'll imagine it creaking along your right of way in a leisurely manner long before you've even put down your issue. And it's so designed that you can build it regardless of gauge, using the same construction technique. . . . Better have your dealer reserve your copy now.

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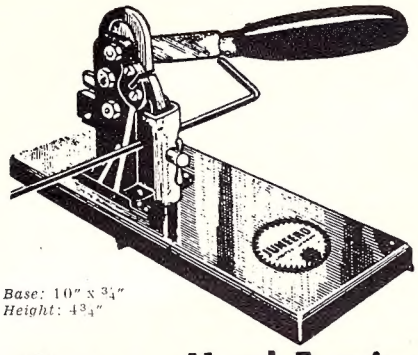

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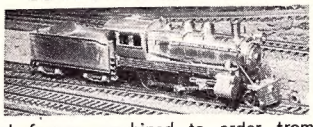

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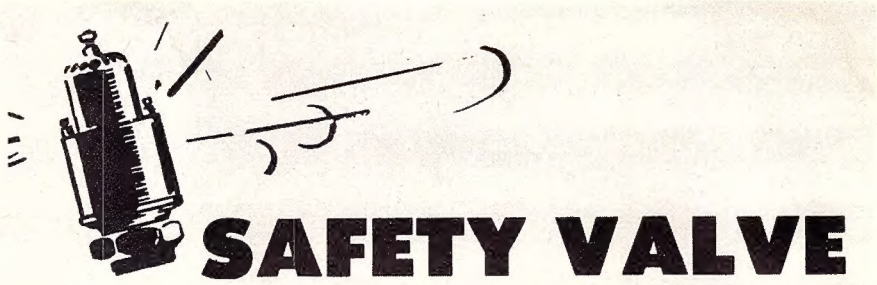


Wants to Join a Club

I would like to know the address of the Train Collector's Association. That is to get information about this association and posibly join it. I would also like similar information on the Standard Gauge Association.

K. H. Reidenbach
Denison, Ohio (Box 45)

● *Train Collector's Association can be reached at 225 Harrison Ave., Avalon, Pittsburgh 2, Pa., R. L. Redman, Sec'y.*

Standard Gauge Association, Box 8, Somerville, N. J., Arthur Pelissier, Secretary.

Also, for those interested, National Model Railroad Association, P. O. Box 1238, Sta. C, Canton 8, Ohio, Bob E. Bast, Office Manager. Ed.

Coming Or Going?

A little ribbing about that excellent article on the Lake Shore M.RR. Ass'n layout in April RMC. Lower photo, page 17; please present a handful of brownies to the party responsible for placing the markers on the forward end of that beautiful RI crummy.

On the other hand, to H. Glade, a bouquet for his photography. The effect of that bright mid-day sun is most warming to a snow-bound Canadian.

Last but not least, to the crew of RMC, a word of appreciation for the many hours of pleasure afforded by the fruits of your labour.

W. W. Richardson
Senneville, Quebec

How to Build a Model Locomotive

One must be especially discreet when selecting a locomotive kit. For some strange reason, Hobby Shop proprietors prefer to sell switcher-type locomotives. When asking my dealer to show me a Mikado or Decapod, for example; he will invariably attempt to pan off some four-drivered job on the pretext that the Mike won't negotiate my twelve inch radius curves. Being an experienced model builder, I insist on getting what I ask for, and I advise you to do the same.

When you get your kit home, promptly discard the instruction sheet; this will save you the effort of reading through this garbage which is merely a waste of time. Next, we dump the entire contents of the box onto a table, being careful to get rid of all those surplus items such as screws, rivets, washers, etc. These small gadgets impede the speed of construction, so get rid of them fast.

Now let's begin: We first drop the drivewheels into the slots of the frame, making certain to alternate the insulated sides, (this improves pick-up, providing electrical connection from both rails insead of one). Make sure that no flash is removed while assembling the mechanism, the manufacturer went to a great deal of effort to provide your kit with this super-detail, so don't scrape it off.

When mounting the motor, use your heaviest screwdriver on the motor mount screw so that the worm-gear bears down on your driver-gear with the greatest possible pressure. This of course, gives your loco plenty of power for those 22 percent grades.

Affixing the driverods, mainrods and valve gear is so simple an operation that we need not spend too much time on this phase of construction.

Before mounting the boiler, remember to attach the motor lead wire to the loco frame. Inexperienced modelers usually run this wire to the tender, but since we've provided both plus and minus pickup to our loco by previously alternating the insulated sides of the drivers, we can now draw our pickup directly from the frame. It's very important that you mount your boiler to the frame so that the superstructure bears firmly against the motor brushes, keeping the brushes from slipping out of position.

Little difficulty should be encountered in assembling the tender, but make sure that the trucks are mounted securely to the bolsters, permitting the drawbar to provide the necessary swing for negotiating curves.

Painting our completed job is an important phase of construction, absolute realism being the prime factor. Although many commercial paints are available for model railroading use, my vast experience taught me that Roofing Tar gives the most realism. Not only does its heavier texture obscure imperfections such as rivets and piping, but you'll discover that its more economical, not requiring the use of a brush or spray gun. Simply immerse the finished model into the container of Roofing Tar and hang up to dry.

If, after carefully following these instructions, your loco fails to operate properly, you can be certain that it was the fault of the manufacturer. Bring it back to your Hobby Shop without delay and, in a loud voice demand your money back. Timing is important, walk in when the shop is loaded with customers. Your dealer will be very happy to accommodate you—just mention my name.

Edward Riche
Staten Island 10, N. Y.

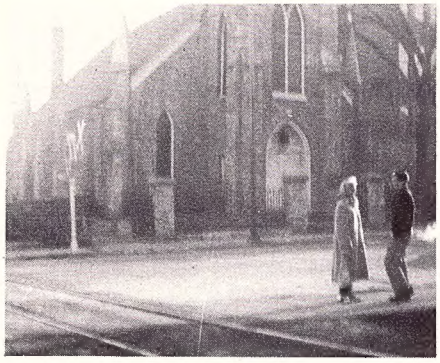
● *Unknown to many, Staten Island has an interesting electric railroad*

operation, B&O controlled. Unfortunately, city operated buses operating at a deficit, have seriously cut into SIRT passenger business. As to Ed Riche's constructional efforts, our thanks for being so enlightened. We've seen many models constructed using his techniques. Ed.

Church By the Tracks

In reply to Rev. David's letter, the photo shows St. Paul's Episcopal Church in Beloit, Wis. The track is that of the C&NW. The railroad was there first. The church celebrated its 100th anniversary in March. The Dakota 400 arrives here at 11:32 during church.

Roger Howard
Beloit, Wis.



● *The devil, so to speak, tempting railfan parishioners from paying full attention to the sermon, especially when the diesel growl is a bit higher pitched or the exhaust more throaty. "What rare bit of motive power could be on the head end of the 400 this morning." Ed.*

In regards the letter of Rev. David (RMC Mar '56), I have a church back of my S gauge pike and offer the following prototypes as reason:

At Iriquois, Ontario, the Presbyterian Church has its back within 100 feet of the Canadian National mainline. At Lisbon, N. Y., on the Ogdensburg Division of the Rutland, the track is in a cut and a church up on the embankment. And at Canton, N. Y., there are 4 churches near the tracks!

The church in Iriquois vibrates every time a fast freight roars through. I have heard my father say that on occasions, even funeral services would have to be suspended while freights went through. Incidently, this particu-

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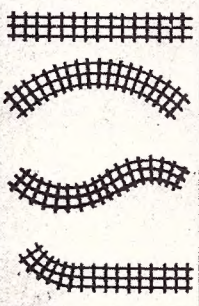

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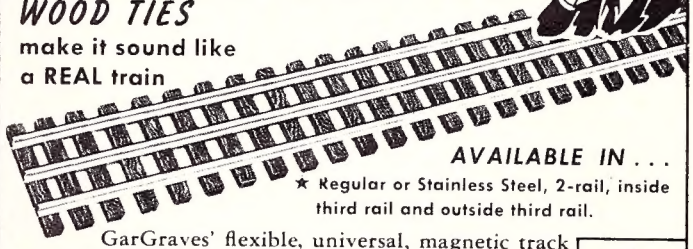

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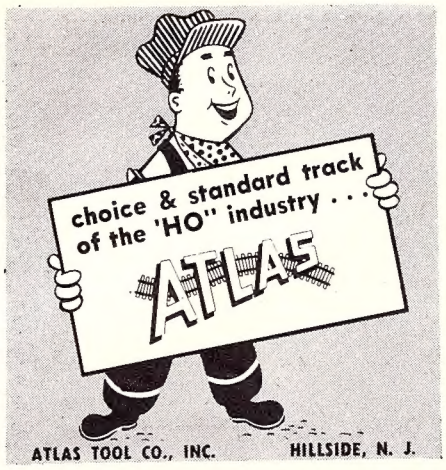

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lar location of church and track will soon be no more, since the tracks must be moved for the St. Lawrence Seaway project and the church either moved or demolished.

However, if all model rails would use diesels, these noises would cease!

Edward C. Nelson
Lisbon, N. Y.

● *At that, railroads are no worse noisewise than firewhistles, heavy trailer trucks, young children, or Hi-Fi fans. Ed.*

Crazy Mixed Up Timetable Again

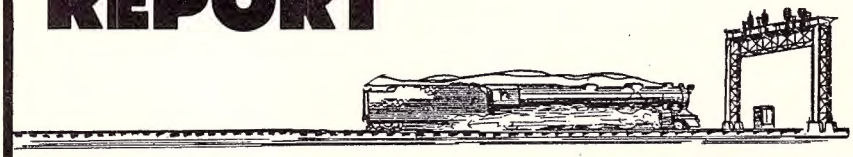
There is a prototype for even and odd numbered trains running in the same direction on the same track. On the Union Pacific, trains 6, 10, 104, and 108 run Eastbound from Los Angeles to Omaha, etc., and Westbound trains 5, 9, 103, and 107 run from Omaha to L. A. However, between Salt Lake City and Ogden, the direction of all transcontinental trains is reversed. By timetable direction, Salt Lake City is EAST of Ogden, so odd number trains run Westward from Omaha to Ogden, Eastbound from Ogden to Salt Lake City, Westbound again from Salt Lake City to Los Angeles. Reverse is true of trains going in the opposite direction.

Originally the UPRR ran from Omaha to San Francisco via Ogden. Then a branchline was built Eastward (or South) to Salt Lake City. Years later a line was built from Salt Lake City to Caliente and Pioche. Then Senator Clark built the Los Angeles and Salt Lake RR from Los Angeles to Caliente where it hooked up with the Oregon Short Line (UPRR), creating a through line from Los Angeles to Salt Lake. Later trading between Clark and Harriman turned the OSL line from Salt Lake to Caliente over to the LA&SL in return for other concessions.

W. S. Hofford
Los Angeles 22, Calif.

● *Reader Hofford is right. UPRR Utah Division timetable No. 24 lists both even and odd trains in same direction on this stretch of track. Which proves that modelers can do almost anything and find a prototype for it somewhere. Ed.*

DISPATCHER'S REPORT



NEWS ABOUT MODEL RAILROADING

NO kidding, we heard a story that one manufacturer was getting ready to manufacture plastic model railroad spikes. We've already got a plastic spike about 4" long, used for mixing drinks. . . . From Germany comes a cloth HO model railroad layout, pre-wired and with streets and grass. Just lay rails on top and run. What next? . . . John English has new 0-4-0 tank switcher for his HO Hobbyline, has switched to NMRA couplers. . . . A new Penn Craft dollar book now in the works. Ready soon. Watch for announcement. . . . N M. R. A. National Convention preparations well under way. Tentative schedule can be found in the Model Railroad Timetable elsewhere in this issue. . . .

Prototype Roads

March 24, 1956 issue of New Yorker Magazine had interesting off-beat story on Lucius Beebe. His new private car "Virginia City" a bright yellow with red trim. Inside all Italian period motif. . . . Pennsylvania trying out new colors on its GG-1 electrics. A few are maroon, one is gray with red stripe, others are black with large 3-D lettering. . . . Houston Monorail open to public. May be transportation of the future. . . . Baltimore & Ohio still has 509 beautiful, well maintained steam locomotives on the roster, including 30 EM-1 mallets . . . Boston & Maine now all diesel. . . . East Broad Top now a memory. . . . Barre & Chelsea up for abandonment. This Vermont shortline is a railfan's delight. . . . Notice the trend towards larger freight car billboard lettering? Latest roads to join the parade are Southern Pacific & Pennsylvania . . .

With the Clubs

Massachusetts Model RR. Society now printing a monthly mimeo paper called "Bay Line Breeze." . . . Model Railroad Club of Buffalo, Inc. recently held their 20th Anniversary, to which, a tip of our grimy old railroad hat. . . . York Model RR Club once had a 00 gauge layout. . . . NMRA has released its first set of 1956 data sheets covering such subjects as car lettering, truss bridges, transformers, and Pullman car interiors. . . .North Eastern Region-Mid Eastern Region NMRA joint convention had as highlight a visit to the John English factory. . . .

Manufacturers

Lionel Corporation had a net sales of $20,512,285 for the year ended Dec. 31, 1955. Profit after taxes was $1,178,554, or more than the New Haven Railroad made. . . . Rossmoyne Model Products now making Layout Blue, a liquid used in making parts from metal. It's brushed on, dries rapidly, and permits easy scribing of the metal to show cut, filing, and drill lines. . . . S gauge will be around at least for an-

other several hundred years since a recent cover of *Astounding Science Fiction* shows a man several hundred years from now holding a Rex Dockside. Good to know, eh what? . . .

NMRA inspection and conformance committees have awarded a certificate of performance to Central Valley for their R-91 ventilated box car although there are actually 12 cars in the line, all using the same standards in design. . . . Interesting to note that most HO ready to run manufacturers are adhering to basic NMRA standards.

No Standard HO Coupler Yet

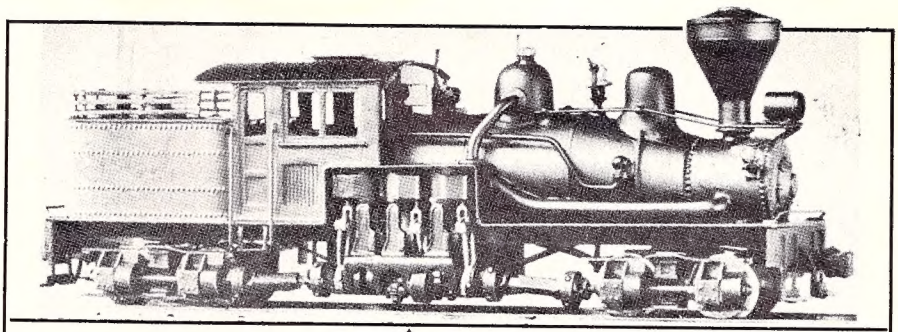
It should be noted that as yet, there is no standard automatic coupler on the market. The X-2f coupler, developed by the National Model Railroad Association's special Coupler Committee, and commonly called the NMRA Coupler, has not as yet been adopted by the organization as their standard, we learn in a query to NMRA Office Manager Bob Bast.

The Board of Trustees of the NMRA rejected earlier this year a proposal to place the matter on ballot, upon the premise that the coupler has not as yet been fully tested by the members and the hobby as a whole. It was also felt that the coupling ramp requires further development, and until then, the coupler cannot be considered as completed.

Te declare the coupler as the NMRA Standard, the matter must be submitted to ballot and be passed by a two-thirds majority. The membership of the organization may decide at the annual business meeting in Twin Cities in August to place the issue on the Spring 1957 ballot.

Even if the NMRA Coupler were to be voted as the Standard NMRA Coupler, it would still have to gain acceptance by the HO hobbyists in general. Both the Kadee and the Mantua-Tyco coupler have a tremendous following and even now there is at least one other automatic coupler being tooled up for early release by an old time model railroad manufacturer. Add to this a number of imported couplers and several still popular discontinued couplers plus the ever popular dummy AAR design. Best thing to do is stop fretting about the situation, use what you like, and see what develops.

Varney's new 2-8-0 is called the "Old Lady." . . . We remember a Brooklyn



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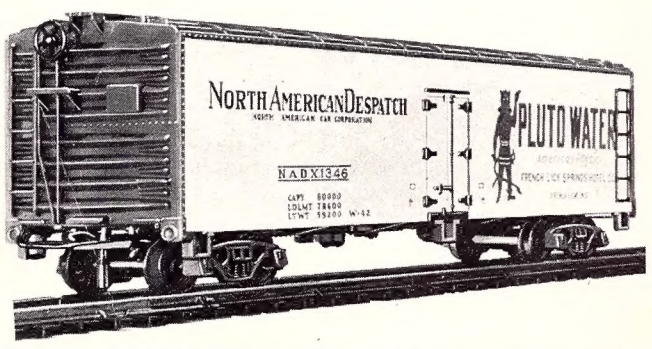

but it's good news for all who fancy private owner reefers. Pluto Water-North American Dispatch is the newest in Mantua's new reefer series. Handsomely lithographed metal sides with "old nick" in bright red, the Pluto Water Reefer is the last word in detail—realism—rail-hugging performance.

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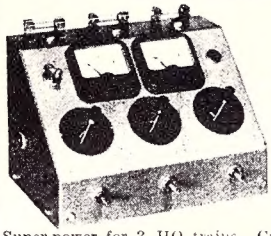

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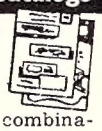

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PCC car, No. 1012, called the "Pink Lady" because of her experimental color scheme. . . . Is a plastic HO Berkshire on the way? . . . German Rokal TT trains won't work on American TT track. Different wheel and gauge standards.

Mid-Continent Region, NMRA, heard from. Their slick paper "Caboose Kibitzer" quite elaborate. . . . PFM shay, HO, rolling around the HO layout of the NYSME during its last days, a fascinating little jewel and amazingly quiet in operation considering all of the moving parts. . . . Another famed HO pike has been abandoned, the Ute Short Line of Earl Cochrane. The pike covered an 18 x 24 foot area, had 100 switches, 30 locos, and 250 cars. Earl has to move, hopes to rebuild but on smaller scale; areawise, not gauge. . . .

How's Your Club

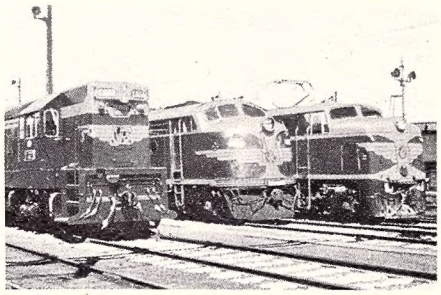
How is your club? Inner strife, too many bosses or members who show up only during the shows with a big smile and a carnation? Why not put in a time clock, with actual time worked on the layout being the basis for seniority privileges while running trains. Not all club members are able to spend the time on the club layout that they'd like to, however. Jobs, family, other responsibilities eat heavily into many a hobbyists time. Yet frequently the fellow with the least time accomplishes the most.

Many clubs could make their meetings more interesting by delegating more power to elected officials. This could tend to eliminate many of the long, drawn out business meetings which often accomplish little. Smaller clubs could also look over their rules and regulations and maybe eliminate many of them, except those actually required for the safety and protection of its members and their equipment. . . . Fellow hobbyists North of the border speak of "Canadianizing" their American locos with closed vestibule cabs, other details . . . new RMC author H. Dudly Collard, a member of the Ontario S. HO M. E. . . . He hails from England and specializes in U. K. equipment. Guess he still has to be Canadianized, too. . . . Auctions are a favorite hangout for toy train collectors. Often a rare Howard or Carlisle & Finch item will turn up and be sold for ridiculously low prices. Especially true when estates are broken up. Sometimes scale equipment is also offered. . . . Northern Ohio Hobby Stores, an organization of hobby shops in that area, not renamed "The Hobby Industry Association of Northern Ohio," in line with a trend to calling all hobby groups HIA, after the parent body. Ed Gorecky, of Ed's Hobby & Toy shop, Garfield Heights was re-elected president; Frank Marx, Sandusky Craft Shop, Veep; Red Hillegras, Red's Hobbycraft of Cleveland, secretary; and Margaret Elsholz, Cleveland Hobby Corner, recording secy. . . .

Off the Cuff

George Stock, pioneer HOer, dealer, manufacturer, and member of the O gauge Philadelphia Model Railroad Club, made a big hit with his special Black Moriah trolley, O gauge. It's a Pittman conversion complete with a casket having a brass name plate bearing George's own name. Crew members on the car all have black ties, and high hats. . . . Why are photos of HOn3 railroads so scarce? Ditto pix of good scale S gauge layouts, and subway and el lines in any gauge. . . . Why do O gaugers act so afraid of scenery. Darn few O gauge layouts ever get scenicked. The way some O gaugers run their trains around bare framework with no protection in case of derailment is downright frightening, although it speaks well for the track holding powers of O gauge. . . . Bill Schopp in the hospital for a minor operation. . . . Heard of one fellow who traded off an engine. It in turn was traded around several more times and finally came back to roost on it's original home road. . . . Disneyland a must for any model rail in California. . . . Comments by modelers indicates an interest in standard gauge scale traction, if somebody would make an under the floor power truck. Be terrific for backyard operation, maybe wandering through a rock garden; rock n' roll through the rock garden. Probably give the neighbor's cat a charge to walk along the tracks with its tail rubbing against the overhead. . . . Lionel out with a New Haven streamlined electric loco, in red, white, and black. Wonder if Lionel will snap up its GG-1 with that new Pennsy paint job? . . . TT Trains, a tiny mimeo publication devoted to you know what, published by Don King, Hoopestown Ill. . . .

Fan trips are usually fun, and are even more so when a diner or lounge car is hooked on, permitting an indulgence to Bacchus. On the other hand, we were pretty disgusted with the five women on a recent eastern trip who became boisterous, insulting, and disgustingly sloppy, on the return home, guzzling all the way in one of the coaches.



New Erie Railroad Electric Loco

Shown here is a photograph of one of the Erie's new electric locomotives, lined up alongside an F-3 and a road switcher. Well, before we drive everybody berserk, better look closely at the initials on the engine, where the Erie diamond should be. They say "VR", for Victorian Railways of Australia. Erie influence supposedly goes back to World War II days when many Erie men were stationed down under, and left a lasting influence. . . .

Russ Clover, revamping decal line. . . . Maier Company parts make it possible to convert Bowser pacific to live steam. Terrific. . . . Herman Enterprises has new telegraph instrument, especially of interest to tinplaters in any gauge. Low in cost, outfit comes packed in cardboard carton which becomes a signal tower when folded properly. . . . Addem Products have new low cost power pack and cab con-

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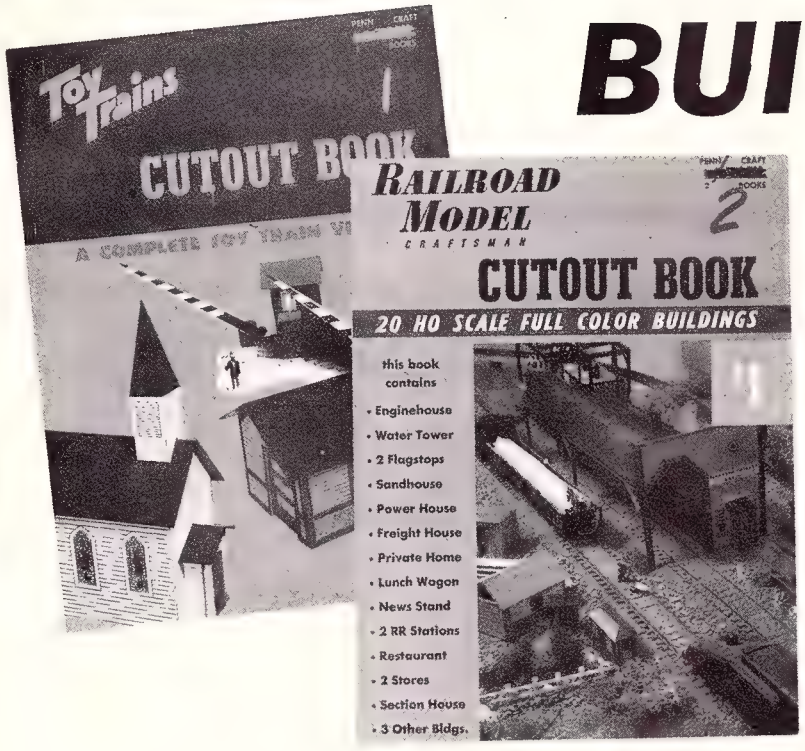

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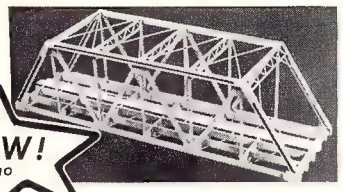

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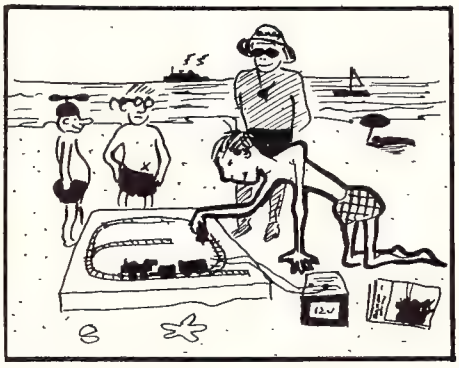
trol unit. . . . RMC publisher Charles A. Penn spent winter in town of Bumble Bee, Arizona, which he owns. Town has gold mine, burros, oldest Post Office in state. . . .

Why not take a portable model layout to the shore or lake this summer? K&O offers a battery powered F-7 diesel A unit. Could also use batteries to power your regular locomotives. All 1956 automobiles now use 12 volt storage batteries, making the job even easier. HO or O gauge scale railroad car ferry, radio controlled, would add to the fun. These ideas may not be conventional, but then neither is the old D. S. . . .



When writing any letter to this magazine, address it to Ramsey, N. J., not to our printing plant in Silver Spring, Maryland. . . . Many readers request additional information on layouts which have appeared in RMC. We regret that we cannot furnish any further information on them, other than what appeared in this magazine. . . .

Brand New

Atlas will release its Custom Line switches soon. No. 4 will measure 9 inches, either left or right hand. Placed back to back they'll form a cross-over with a 2 inch center. . . . Also from Atlas, a package of small Snap-Track pieces to avoid the necessity of chopping up standard 9 inch sections. Available this fall, when announced. . . . Schrader HO GG-1 ready by July. Boiler is shell mold cast brass. Power will be twin DC-60 motors driving four axles. Trucks and pilot lost wax castings, frame will be an alloy with brass bearing inserts. . . . Sen. John Butler, Maryland, predicts that the first atomic powered locomotive will hit the rails by 1960 and that by 1970 they will be justifying their existence, economically, in long haul service. Many of the parts needed, he says, are already being worked out. . . . New York's Third Avenue, naked without its el. City fathers there took the el down because it darkened the streets, now want to install solid cement elevated highways. Who's kidding who. . . .

CHANGE OF ADDRESS: Send your new address at least 30 days before the date of the issue with which it is to take effect. Address

RAILROAD MODEL CRAFTSMAN

RAMSEY, NEW JERSEY

MODEL RAILROAD TIMETABLE

NMRA National Convention

Minneapolis, Minn., Aug. 16-19. 21st Annual National Convention, NMRA. Headquarters at the Hotel Saint Paul, St. Paul, Minn.

THURSDAY, AUGUST 16TH
7 PM Evening Registration, at Hotel
FRIDAY, AUGUST 17TH
8 AM Registration, at Hotel, all day
9 AM Ladies Sightseeing trip and luncheon
1 PM Clinics
On Friday evening, the local model railroads, club and private will be open to visitors. Due to time and distances involved, arrangements for transportation will be on an individual basis.
SATURDAY, AUGUST 18TH
8 AM Registration, at Hotel, all day
9 AM Railfan trip, to be specified later. Box lunches available.
4 PM Annual Business Meeting.
6 PM Grand Banquet, St. Paul Auditorium. Ice Show and Symphony Orchestra.
SUNDAY, AUGUST 19TH
8 AM to 7:45 PM. Special trip to Duluth-Superior, via Great Northern, to inspect ore facilities. (NOTE: This trip is tentative and will be extra.)
A model contest will be held.

Conventions

Kansas City, Mo., June 8-10; Mid Continent Region, NMRA. Hosts are HO and O Clubs of K. C. Banquet, breakfast, business meeting, model contests, Caboose Kibitzer award. Operating HO, O, full size railroads visited. Details from Robert W. Whitsett, 5804 Chestnut, Kansas City, Mo.

Tinplate Clubs

NEW YORK CITY AND AREA: C. H. Knipple, 21 Vista Lane, New Providence, N. J., wants to contact any extensive O gauge tinplate club in New York area.

Club Publicity Chairmen

NOTICES for the Model Railroad Timetable are welcome. Items for the next available issue, August, must be received at Ramsey, N. J., editorial offices by June 10th. Items for September issue by July 10th. Notices should be on club letterhead. Publicity releases for the Dispatcher's Report column are also welcome, if they are of general interest.

New Clubs

MANCHESTER, CONN.; Conn. Soc. of Ferroequinologists & Model Railway Engineers, and O gauge Hi-Rail club, needs members. Club layout in planning stage. Contact Skip McKay, Pres., at MI 9-9641, or secretary Allen Cox at 756 Vernon St., phone MI 9-1435 for details.

TRACK TIP

Your Atlas Snap-Switches will be ever so much more satisfactory if you install the plastic extenders which move switch motor housings back from the track. Without these, most ready-to-run engines will get past, but such choice locos as a diesel road switcher or a steam Pacific will whack the motor housing each time past. If switch is already in place it is still not too late. Remove screws holding motor housing to switch and nuts will stay in recesses under the switch. Cement other nuts furnished in hex recesses under plastic extender, and slip extender under motor housing, meanwhile slipping actuating wire from inner to outer hole of throw-rod. Insert new screws into the cemented-in nuts, pressing downward on the extender. Insert old screws into holes nearest switch, nuts still being located there. Only in rare sites is it impossible to move the motor housing back.

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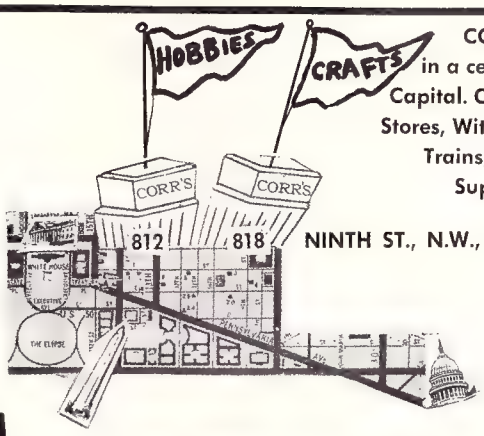

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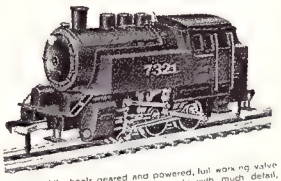

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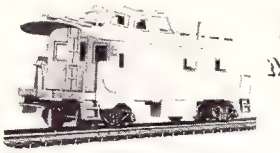

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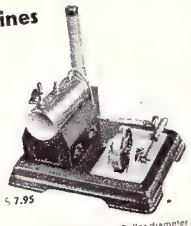

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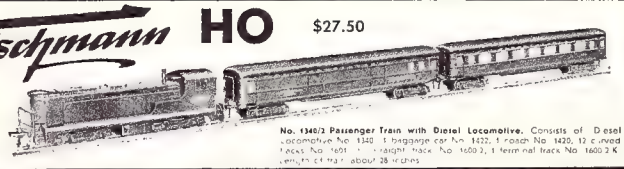

No. 1340/2 Passenger Train with Diesel Locomotive. Consists of Diesel locomotive No. 1340, 1 baggage car No. 1422, 1 coach No. 1420, 12 curved tracks No. 1601, 1 straight track No. 1600/2, 1 terminal track No. 1600/2 K, length of train about 28 inches.

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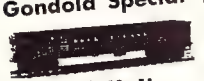
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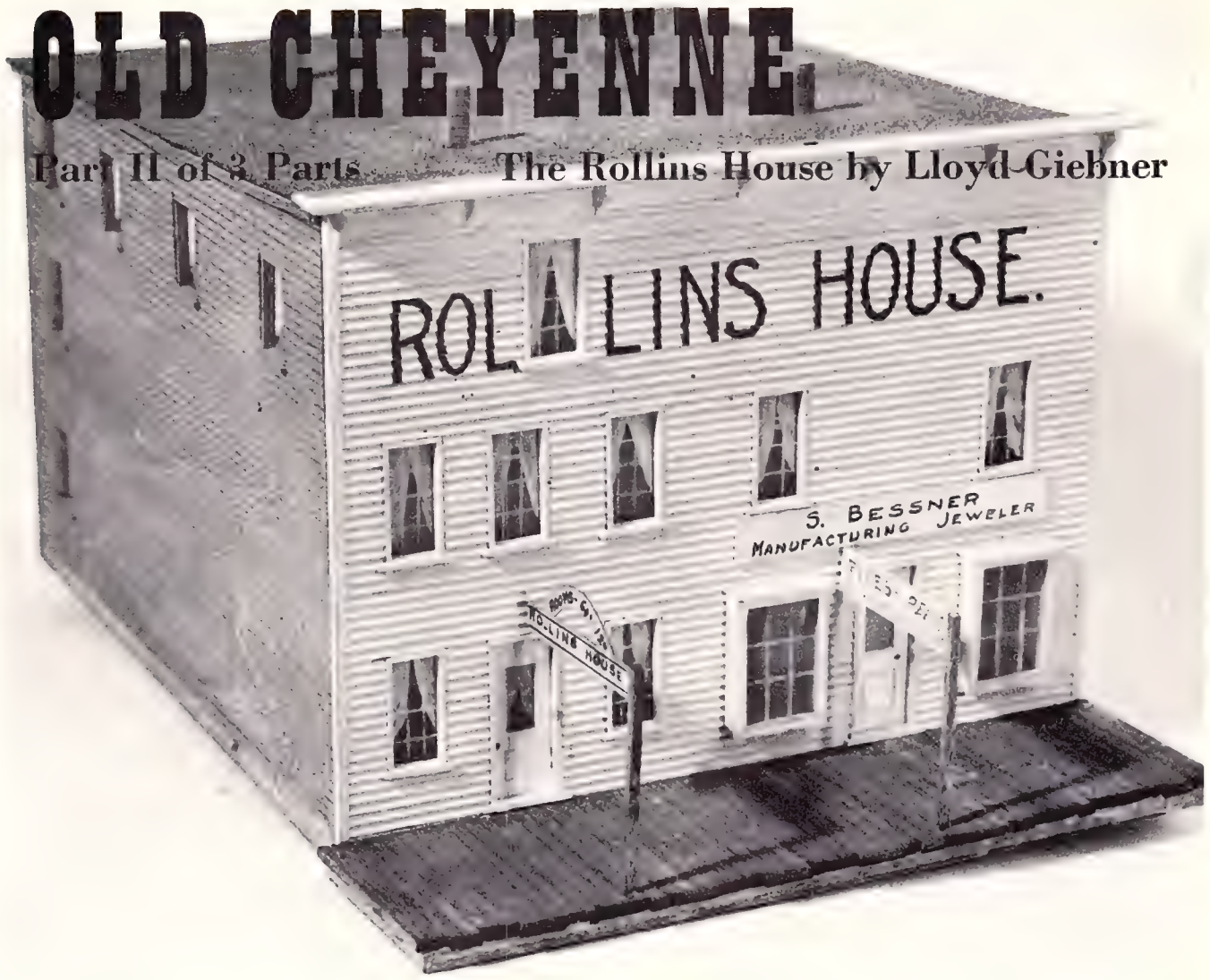
City State

SATISFACTION GUARANTEED OR YOUR MONEY BACK

OLD CHEYENNE

Part II of 3 Parts — The Rollins House by Lloyd Giebner



THE Rollins House, a sprawling three story frame structure housing two business enterprises, was designed and built by Mr. A. B. Rollins the latter part of July, 1867.

In Wyoming's frontier towns as in most western early day architecture the "false front" building was typical. The false front used on store buildings was a square front extending beyond the ridge of the roof to give the effect of another story.

Mr. Rollins' original plan was for a two story hotel, using the false front, but, before the building was finished the demand for a night's lodging and store room space became so great that the construction plan was altered considerably.

The ground floor was divided. The left half was used as the hotel lobby, dining room and kitchen. The right half was leased to a jewelry manufacturing concern and a third story was added, killing the effect of the false front. Result, a box like appearance.

So! If some of your guests are bewildered at the sight of this barney looking old edifice and question — "Why does the top of the building look so chopped off?" or "Why didn't you extend the cornice above the roof?" you have the answer. Just tell them about Mr. Rollins and the switch in plans.

The construction of Unit No. 4 will keep you busy this month I'm sure.

Just think, only one more article to go, and our model of old Cheyenne is completed. The Cheyenne and Black Hills Stage Line station with two other small buildings will complete the set and what a layout of contrasting structures they are!

Materials

Enough material for all seven buildings was listed in PART ONE, appearing in RMC for May, 1956. See listing for this project.

Construction

Unit No. 4, Fig. 1 — Using the 1/16 inch thick clapboard siding, cut out the front wall according to dimensions. Your measurements of the doors and windows must be exact, so be careful when cutting them out. Glue the (1/16 x 3/16 inch stripwood) cornice board to the top edge of the wall, then add the 1/16 square corner trim strips. Cut the coping board (1/32 x 1/4 inch stripwood) 36'6" long and add the (1/32 x 1/16 inch stripwood) coping trim, then glue it to the top edge of the wall. Cut the seven cornice brackets to fit and glue them in (as illustrated) place.

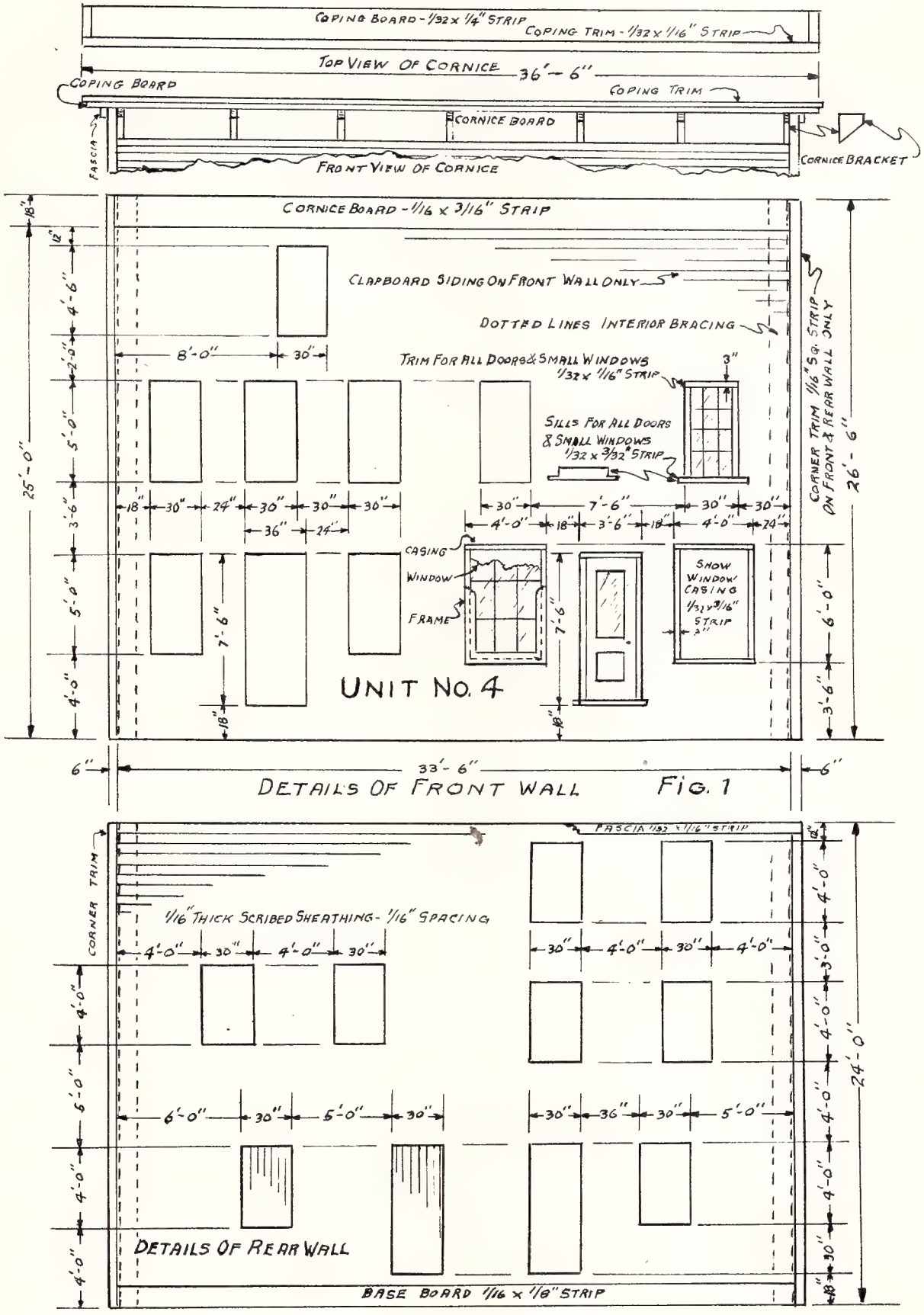
The sills are cut to shape from 1/32 x 3/32 inch stripwood. Glue sills to the doors and all small windows, then add the 1/32 x 1/16 inch stripwood trim.

Casing for the two large show windows is 1/32 x 3/16 inch stripwood, see perspective drawing, "Special details of show window" Fig. 3. Cut the casing pieces to fit and glue them in place. Add dotted line (1/8 x 1/8 inch stripwood) interior bracing.

Paint the front wall white and when dry dirty it up slightly with brush wash.

Small windows. Scratch lines on small pieces of celluloid (as illustrated) and glue them to the back side of the wall. Sand the inside surface of the windows to make translucent. Paint curtains on the windows of the second and third floors.

Show windows. For dimension of the window and window frame, see special details Fig. 3. Try-fit both pieces. Glue frame to the window casing first and immediately drop


COPING BOARD - 1/32 x 1/4" STRIP
COPING TRIM - 1/32 x 1/16" STRIP
TOP VIEW OF CORNICE
36'-6"
COPING BOARD
COPING TRIM
CORNICE BOARD
FASCIA
CORNICE BRACKET
FRONT VIEW OF CORNICE
CORNICE BOARD - 1/16 x 3/16" STRIP
CLAPBOARD SIDING ON FRONT WALL ONLY
DOTTED LINES INTERIOR BRACING
TRIM FOR ALL DOORS & SMALL WINDOWS 1/32 x 1/16" STRIP
SILLS FOR ALL DOORS & SMALL WINDOWS 1/32 x 3/32" STRIP
CORNER TRIM 1/16" SQ. STRIP ON FRONT & REAR WALL ONLY
CASING
WINDOW
FRAME
SHOW WINDOW CASING 1/32 x 3/16" STRIP
UNIT NO. 4
25'-0"
26'-6"
33'-6"
DETAILS OF FRONT WALL
FIG. 1
CORNER TRIM
FASCIA 1/32 x 1/16" STRIP
1/16" THICK SCRIBED SHEATHING - 1/16" SPACING
DETAILS OF REAR WALL
BASE BOARD 1/16 x 1/8" STRIP
24'-0"

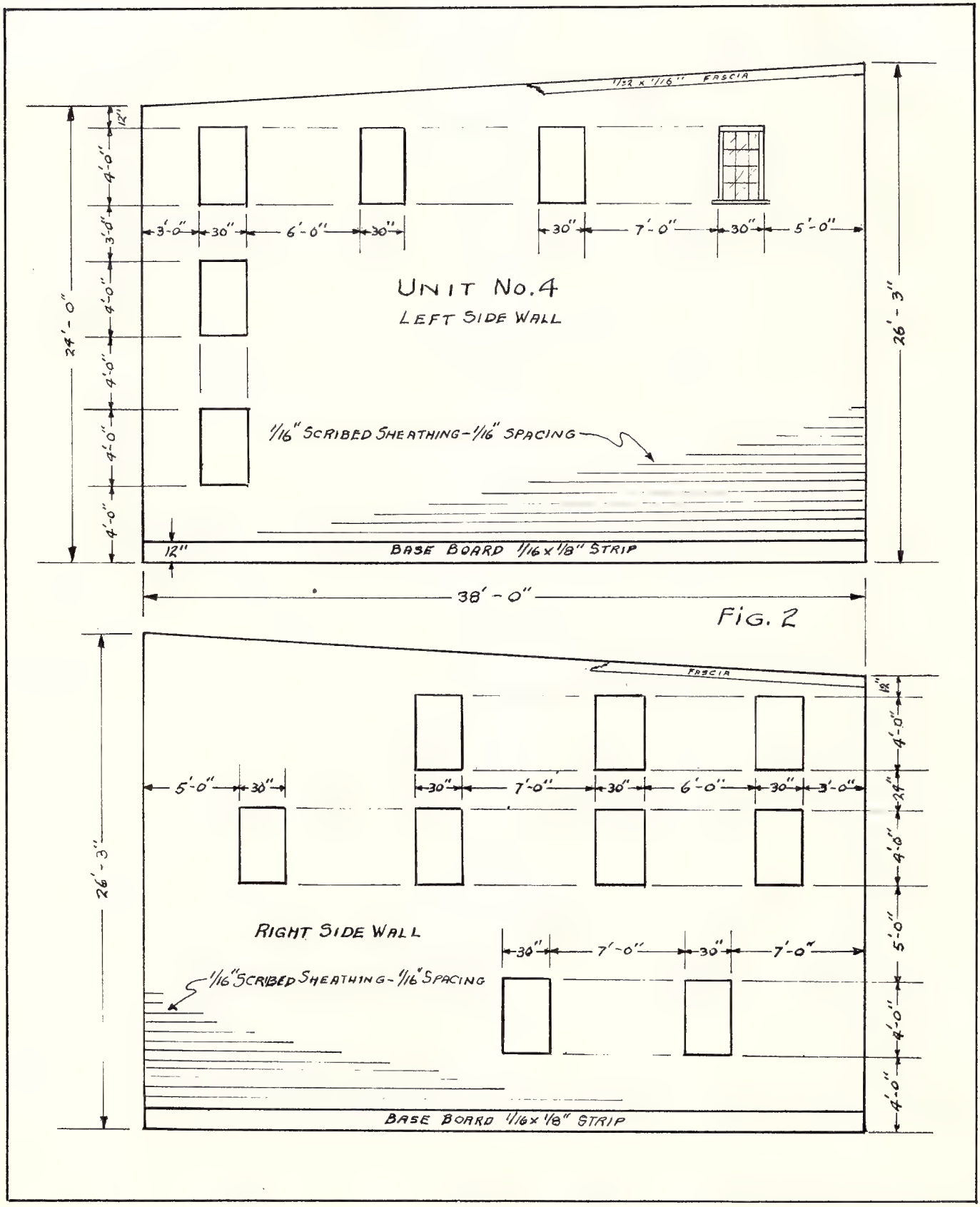
Drawings Shown Full Size For HO Gauge

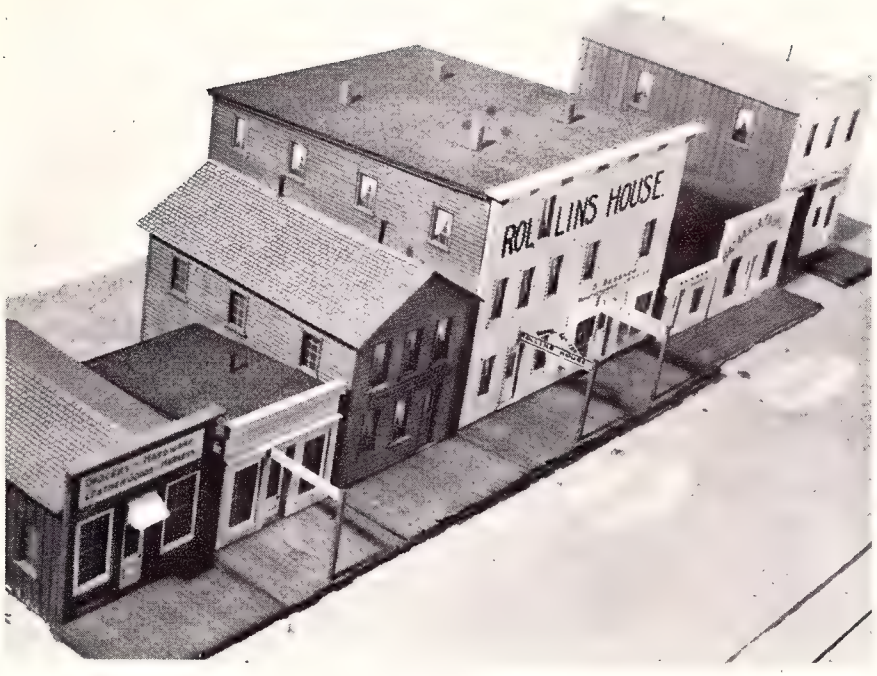
window in place (make window translucent) and press it up against the window frame, in this manner both are affixed at the same time.

Front Doors — For detail see Fig. 3. Cut a piece of Strathmore board slightly larger than the door opening, place this piece up against the door opening and with pencil outline the door size, then scribe the panel and cut out opening for the door glass, add celluloid for the glass and glue the doors in place. Doors are identical. Letter the front wall "Rollins House" now.

Rear Wall Fig. 1 — This wall is made up of 1/16 inch thick scribed sheathing with a scribed spacing of 1/16 inch. Cut out the wall piece according to dimensions. ATTENTION — Please note that the windows of the second story are one foot higher on the left side of the rear wall than the second story windows on the right side. So! be careful when you lay out this wall.

Next add the base board (1/16 x 1/8





The three structures to the left of this scene were described in detail in RAILROAD MODEL CRAFTSMAN for May 1956. The buildings on the right will be described next month. Rollins House, in the center, is shown in more detail in the photo on page 14 of this issue.

inch stripwood) to the bottom. Add the 1/16 inch square strip for the corner trim to each side of the wall.

Affix sills and trim to doors and windows by same method as used for front wall. Glue small pieces of scribed sheathing to lower left windows and left door. Add the dotted line (1/8 x 1/8 inch stripwood) interior bracing. Weather the wall with brush wash.

Windows. Scratch lines on celluloid, (same pattern as front) make translucent and glue in place. Door on the right side is the same type as that used for the front. Make up the door and glue it in place.

Fig. 2 — Both of these side wall pieces are cut according to dimensions from the same sheet of scribed sheathing as was used for the rear wall. NOTICE: when laying out the second story windows on the walls, compare the height from the bottom.

Add base board strips to each wall — window sills and trim — weather with brush wash.

Make up all the celluloid windows, make translucent and glue in place.

Assembly. Glue all four walls together. The side walls glue to the interior bracing on the front and rear walls. Square all corners by pushing your square up aganist the walls.

Plenty of interior bracing is needed on this structure to prevent warping. Add accordingly. Half inch wide pieces of stripwood should run from side wall to side wall at the top, not only to tie the walls together, but to act as roof supports. Be sure the tie strips are even with the top edge of the walls. A couple of tie strips are needed at the bottom also. Add the fascia (1/32 x 1/16 inch stripwood) strips to the top edge of the building. Weather with brush wash.

The roof is cut to fit from the Strathmore board. I suggest you place the building bottom side up on the Strathmore board and pencil mark around the walls to get the correct size. Mark front or rear on the roof piece for position. Glue the roof in place. Apply brush wash to the bottom side and edges of the roof piece.

The roof is tar and gravel and the best method to imitate is — paint the entire roof with black enamel and while the paint is still wet sprinkle with finely sifted sand and let it dry thoroughly.

Four brick chimneys are used on the roof. Use your own imagination for the make up. For additional roof detail add a small sky light or a couple of scuttles.

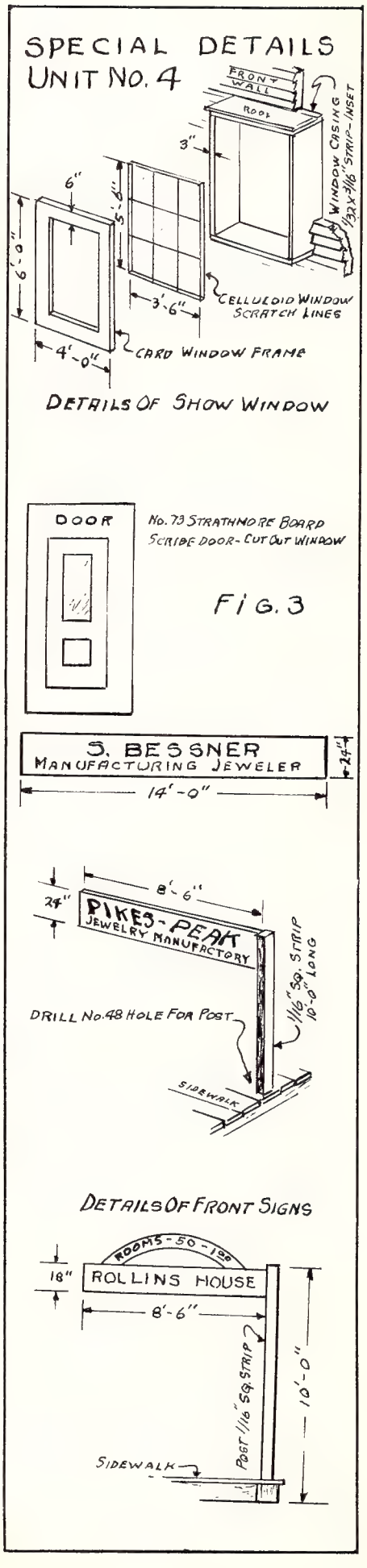
Sidewalk. For detail see written text on sidewalk Part 1. Also see drawing Unit No. 2, Part 1 (May, 1956, RMC). Make up sidewalk to run full length of the building, weather with brush wash and glue to the front.

Fig. 3 — Special Detail of Signs. Cut the signs from Strathmore board according to the given dimensions and letter each with Higgins ink, the color of your choice. The "S. Bessner" sign glues flat to the front of the building.

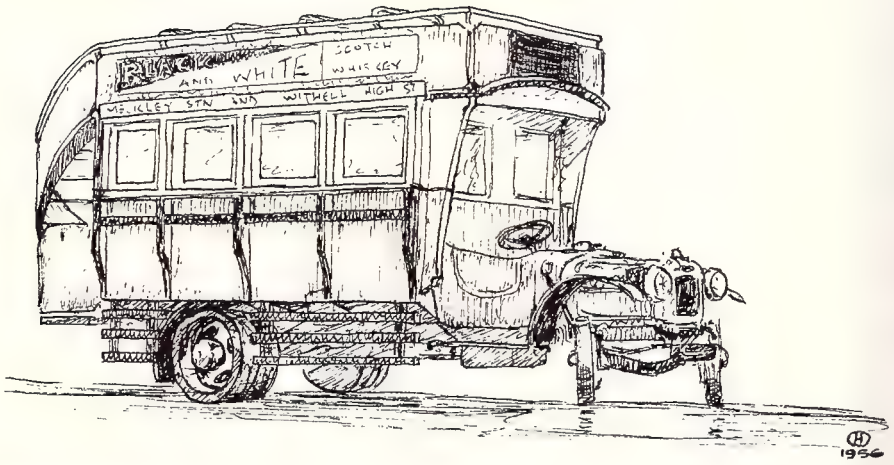
The signs which extend out over the sidewalk attached to the post are lettered on both sides. The post is weathered with brush wash. The signs are also slightly weathered.

When you have completed the sign work your hotel is finished.

Next month, the conclusion of Old Cheyenne.



A DOUBLE DECKED *JITNEY*



by H. Dudley Collard

HO Scale Drawings On Page 20

If funds are too low for that new railroad extension, begin passenger service with this old double decker jitney. Here's a real fun project.

AT the last annual general meeting of the stockholders of the Meckley & Garro Light Railway, a proposal for a branch line to the neighboring town of Wittell was discussed. When, however, it was held that the line would be costly to build, and by the traffic manager that it would bring in but little revenue, it was proposed that an omnibus should be used to connect Meckley Station and Wittell Town Hall. This has now been done. A 'bus, similar to the type B kind used by the London General Omnibus Company has emerged from the Meckley Locomotive Works and is now in service.

In a spirit of generosity, it has been unanimously voted that plans of this bus should be made available to all, thus helping other street railways and small steam railways who may be in a similar predicament.

If your railroad is built in a country where it is common to drive on the right hand side of the road, just put the steering gear on the left and face the stairs to the right. (As you might by now have guessed, our author has just recently moved to Canada from the British Isles. Apparently the problems facing miniature railroads and trolley lines in England are pretty much the same as here. Ed.)

The Chassis

Two side members cut from 1/16" balsa wood and are joined by three 1/16" transverse members. Two pieces 1/32" x 1/16" form the extension to the frame. Balsa is quite satisfactory for a non-operating model such as this and has the added advantage of being easily worked. Others may prefer precision cut bass or pine strips, for their finer finish.

To make the springs, take six strips of thick paper, varying in width from 1/8" to 3/8". Glue these together pyramid fashion and then slice off to form complete sets of leaf springs.

The front axle, track rod, and steering gear is cut from 1/16" sheet. The steering box is cut from a scrap of 1/16" balsa. Brass wire supports for the front mudguards should be affixed before installing the exhaust pipe, twisted to shape from wire and passing through the oval length of balsa which forms the muffler.

The rear axle is a short piece of heavy wire passing through the differential, shaped from wood as shown in an oval shape. The drain cock, a tiny cube, is cemented to the differential. The drive shaft is medium wire and the brake rods fine wire.

The wheels are made from what is, to me, a new method suitable for all vehicles with solid tires. They are made from snap fasteners purchased in any dime store. Wind paper around the rim of the female part, which forms the wheel. The male piece is glued onto the ends of the axle to simulate the brake drum. The chassis is completed by adding a fine wire starting handle and a thin card number plate.

The Engine and Driver's Compartment

The radiator shell is carved from 1/16" sheet. Chisel back into this shell to give relief to the radiator. The radiator cap is made from a piece of scrap. A pin head may also be used. Pass a piece of wire through the back of the radiator, which should be notched to receive it. The wire supports the lights and the front of the mudguards.

The lights are small rhinestones used in beadwork and also available at hobbyshops in several sizes. The light casings are cut from dowel with a pin, simulating a ventilator, passing through it. The mudguards, hood (in England it's called a bonnet. Ed.) and the sides of the driver's compartment are made of thin card. The hinge along the top of the hood is fine wire. The gas tank is 1/16" balsa and the filler cap a small round scrap. To make the steering wheel, take the male part of another dress snap and enlarge the four existing holes until you are left with four spokes. A TT or small HO brakewheel could also be used. The steering shaft is a pin running through the petrol tank and down to the steering box.

The Bodywork

The body framing is built up from 1/32" sheet. First cut out the floor and then glue the transverse supports underneath. Note how those adja-

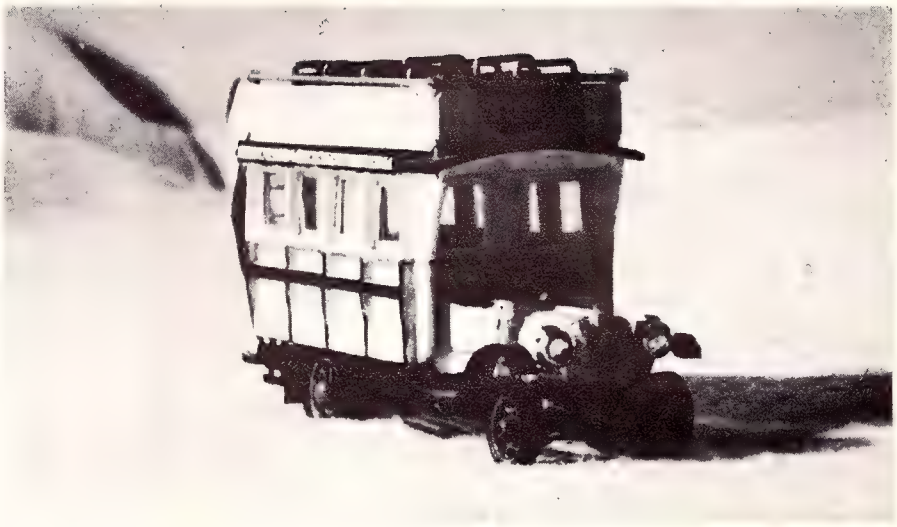
cent to the rear wheels are cut to allow for clearance.

The sides can either be prefabricated or built up from the floor. The sill notched to receive the vertical ribbing is glued to the top of the sheathing. The vertical ribbing is cut as shown and is stuck onto the outside of the sheathing with short horizontal pieces between. Now cut out and affix the top plate. Laminate a piece of celluloid between two thin card window frames, and mount in their casings.

The two ends are built similarly. Two narrow seats run on each side of the interior at the same height as the horizontal ribbing. The roof is glued on after painting the interior. My model is brown and white. Then add the two fillets and the driver's seat up front.

Cut the platform from 1/32" sheet. The stair supports, treads, and side sheeting are cut from thin card. Glue the supports in first and then add the treads. Now add the handrail support halfway up the stairs and the stanchions on the roof. The handrails are glued to the top of these. The left and right handrails run from the front of the bus to the bottom of the stairs. They must be bent carefully from brass wire. The front rail and all the side sheeting is then glued on. Bend the platform rail from brass wire. The lower step is cut from 1/32" balsa and is fixed onto two brackets, which in turn fit up into two holes pierced in the platform. It is best to letter the destination boards on bristol board, heavy bond paper, or cartridge paper; using india ink. The rear light is made from a scrap of balsa, with the rear and stop lenses simulated by two pin heads. Glue this and a rear number plate in an appropriate position.

To make the upper deck seats, cut six strips of thin card. Fashion the legs by bending U shaped pieces from brass wire. Laying out three of the strips, glue two pairs of legs on them ½ cm. apart so that the strips form the slats of the seat. Make one pair longer to allow for the camber of the upper deck. The seat backs are made by laying out the other three strips and gluing a U shaped piece across them. Join these two assemblies and you have a slatted wooden seat. Nine seats are required.



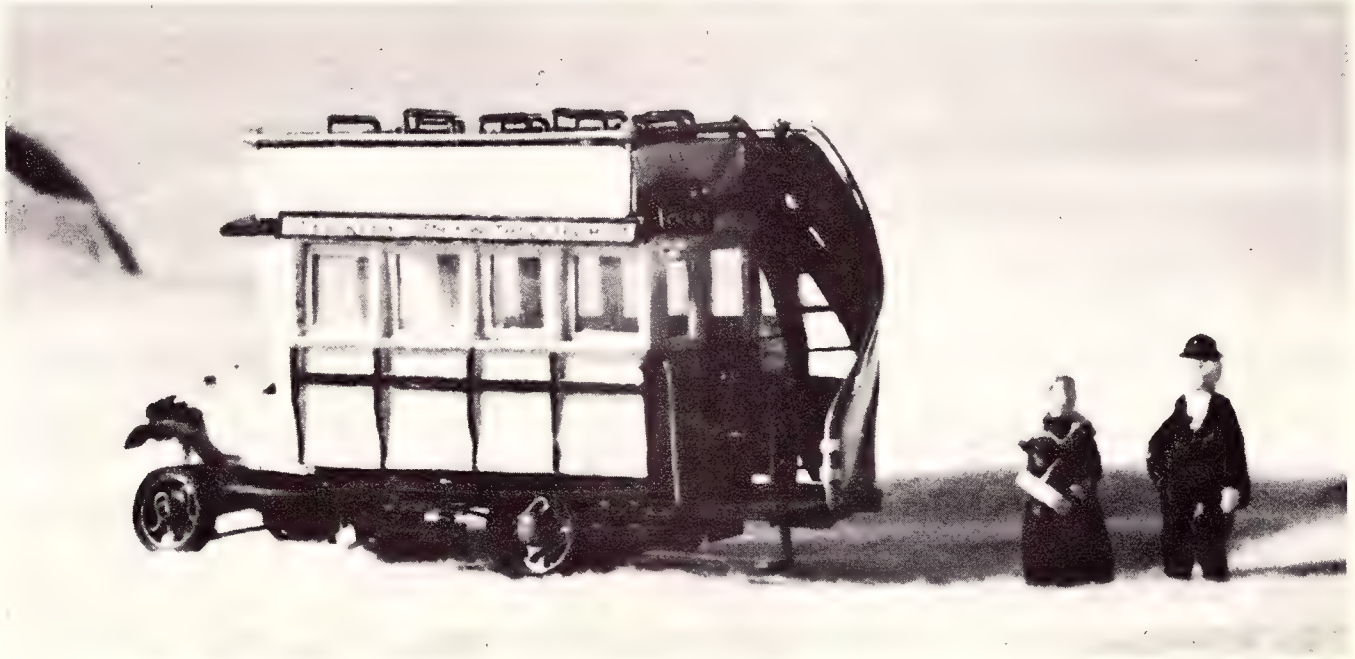
Picture this 1910 vintage double decker rolling bumpily down your main drag. Dress snaps have been used to create the wheels. Upper deck is complete with seats and stairway. Patterned after British prototype, this model has stairs on wrong side for American, Canadian operation.

Finishing Touches

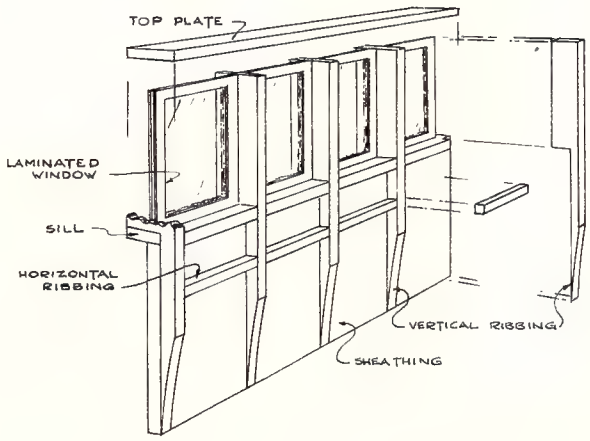
For strength reasons, cut the tool box from a solid block of balsa. Glue two card brackets onto this and also two thick paper hinges. Take some fine wire, bend it into a small U and push it into a block of balsa scrap. Then cut away the surplus wood to leave a padlock. This method prevents splitting. Staple the padlock onto the tool box with another fine wire U shape.

The guards, which stop unwary pedestrians from falling under the wheels are built up from scraps of card. The rear mudguards are also card and are cemented to the underside of the body.

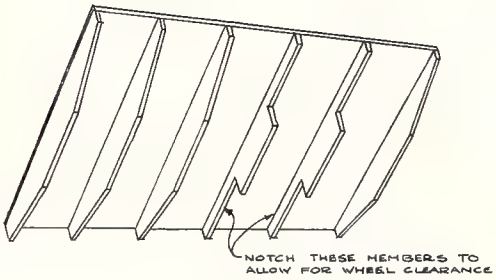
Paint the bus as you wish. The bus described is painted yellow and white with red wheels, seats, and trim. Ribbing on the body and underframe is painted black. I'd recommend that you paint the bus for your own railway colors. It's always good business to keep competitors out of the passenger carrying field, even in the sphere of motor transport.



The people in this scene were carved from balsa wood. The tiny HO scale bus has 513 parts! Double decked buses were used in several U.S. cities, notably New York and Chicago. Placed in the streets, near a carbarn or in front of a railroad station, they would attract attention.



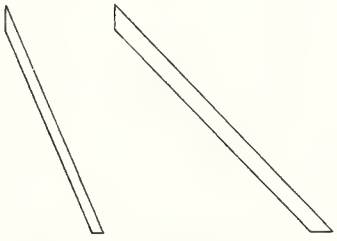
CONSTRUCTION OF BODYWORK



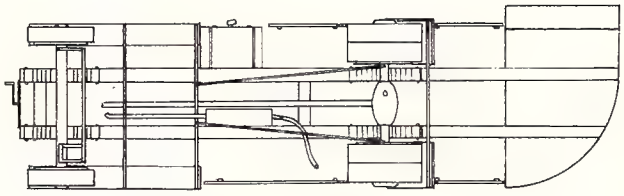
CONSTRUCTION OF UNDERFLOOR

UPPER DECK SEAT
(R.H. SEAT SHOWN)

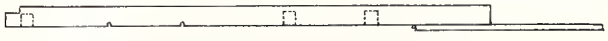
STEERING BOX



STAIR SUPPORTS

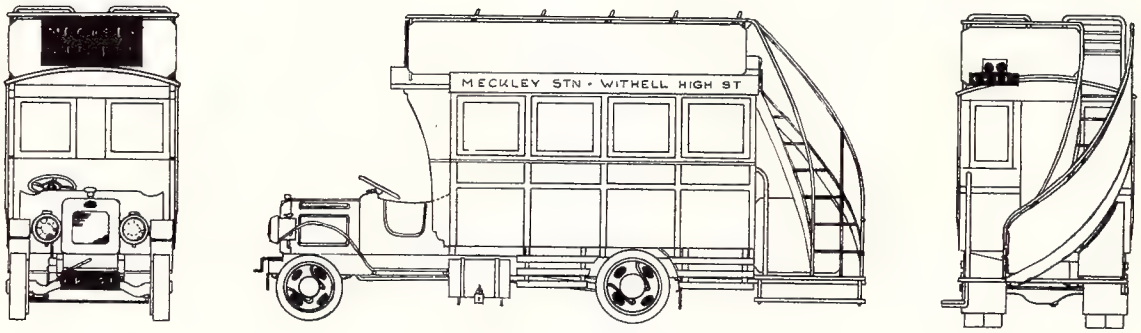


CHASSIS LAYOUT



LONGITUDINAL CHASSIS MEMBER

NOTE - DOTTED LINES SHOW TRANSVERSE MEMBERS.

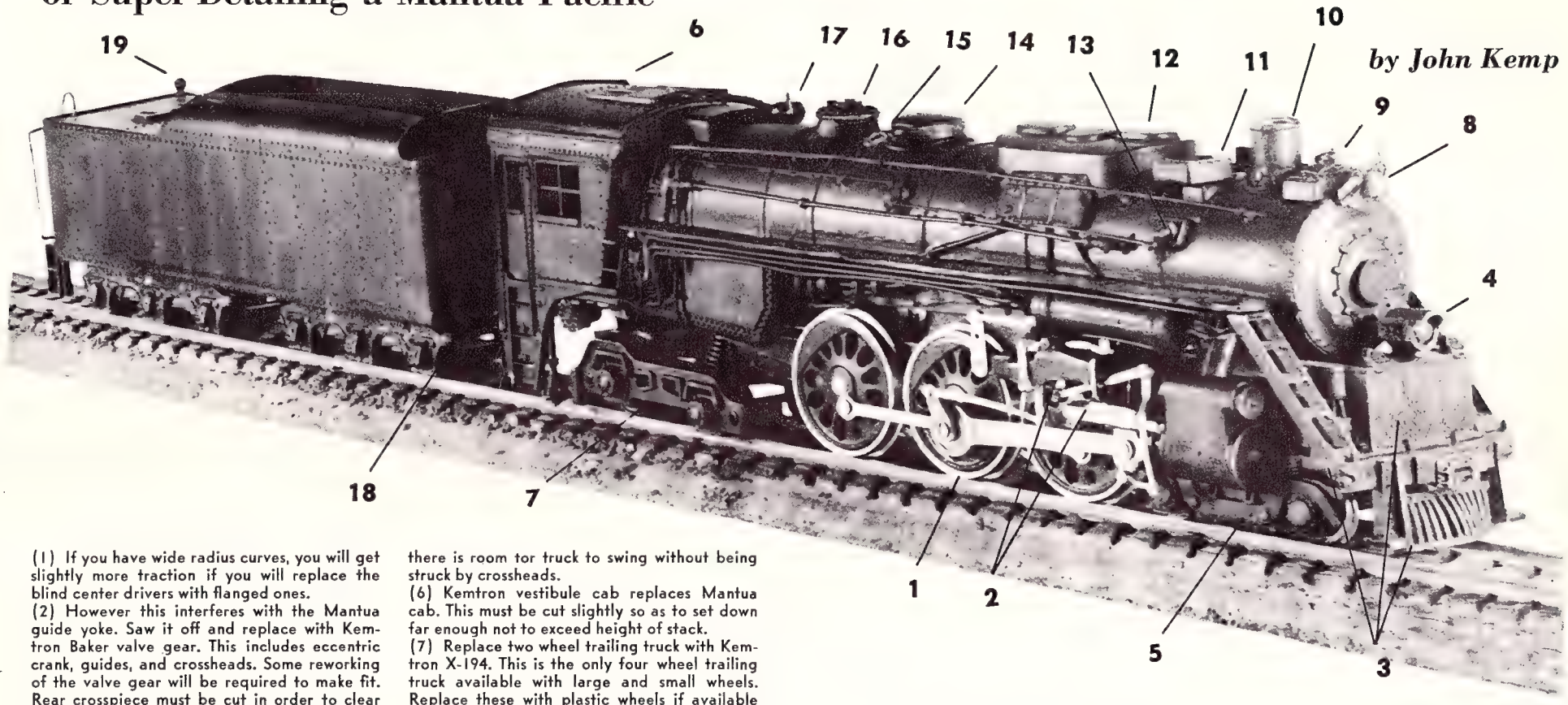


ELEVATIONS

BUILD A MANTUA HUDSON

or Super-Detailing a Mantua Pacific

by John Kemp



(1) If you have wide radius curves, you will get slightly more traction if you will replace the blind center drivers with flanged ones.

(2) However this interferes with the Mantua guide yoke. Saw it off and replace with Kemtron Baker valve gear. This includes eccentric crank, guides, and crossheads. Some reworking of the valve gear will be required to make fit. Rear crosspiece must be cut in order to clear Mantua gearbox, gear being suspended by one screw at the front only.

(3) An entirely new front porch may be made up. This one consists of parts screwed to a heavy sheet brass base—new pilot casting. Varney engine steps, and Varney air-pump and aftercooler casting.

(4) Headlight is mounted on top of aftercooler if Grain of Wheat (GOW) bulb is used, then wires may be run directly back to motor b-ushes.

(5) Penn-Line T-1 outside bearing lead truck lends class. Brass wheels should be replaced with plastic ones to minimize shorts. Also rear corners of frame must be filed at top so that there is room tor truck to swing without being struck by crossheads.

(6) Kemtron vestibule cab replaces Mantua cab. This must be cut slightly so as to set down far enough not to exceed height of stack.

(7) Replace two wheel trailing truck with Kemtron X-194. This is the only four wheel trailing truck available with large and small wheels. Replace these with plastic wheels if available to minimize shorts against frame.

(8) Sit a Mantua, Varney, or Kemtron angle-mounted bell out front.

(9) Then a Warren feedwater heater casting. Use complete Warren feedwater system on left side, injector on left side. Needless to say all fittings on boiler both above and below running board must be removed before adding any new parts.

(10) Budd, Kurtz-Kraft, Kemtron stack affixed with screw. This interferes with normal mounting of boiler to cylinders by a long screw. Attach front of boiler by a long screw up through frame into bottom of boiler just behind the cylinders.

(11) Model Die Casting SF number board.

(12) Budd sand dome, with necessary sand pipes.

(13) Warren front-end throttle castings.

(14) Budd steam dome.

(15) Warren whistle.

(16) Budd pop valve cluster.

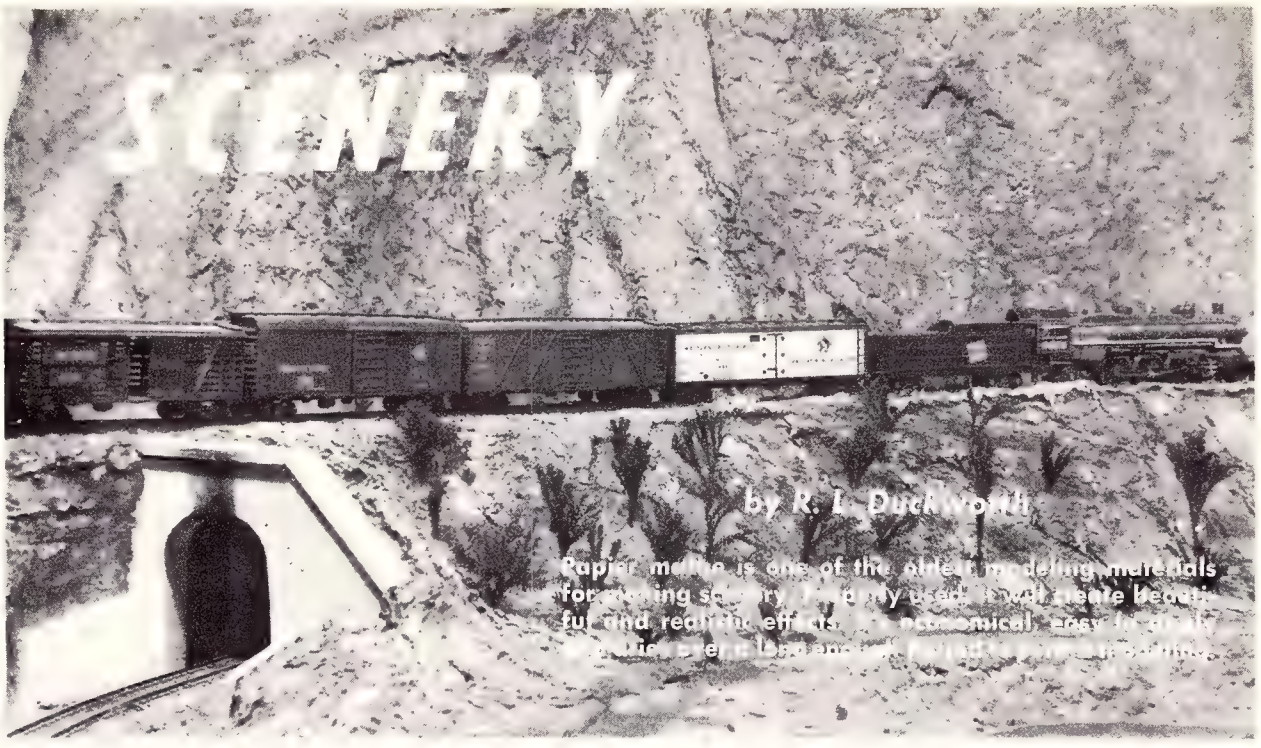
(17) Varney or Kemtron generator.

(18) Cut off extending tender deck and steps since steps are provided on new cab. Slight peninsula must be left in center to accommodate draw-bar screw. Even new Kemtron drawbar is not long enough and a new one must be made from fibre to couple tender close enough for your curves.

(19) Varney marker lights on tender (one apparently knocked off before photo was taken). If you also use Kemtron markers on smokebox front (not shown), there will be enough jewels left over to bejewel the Varney markers too.

Further suggestions: tender may be replaced with another type. Airpumps, etc., may be removed from pilot deck and placed on smokebox front. In this case pilot deck could be occupied by Penn-Line L-1 or I-1 airtanks.

Making all these changes entails quite a bit of extra expense, but who wouldn't like to park that Hudson in his roundhouse?



SCENERY

by R. L. Duckworth

Papier mache is one of the oldest modeling materials for making scenery. Properly used it will create beautiful and realistic effects at economical cost. Easy to work with, it cleans up [illegible]

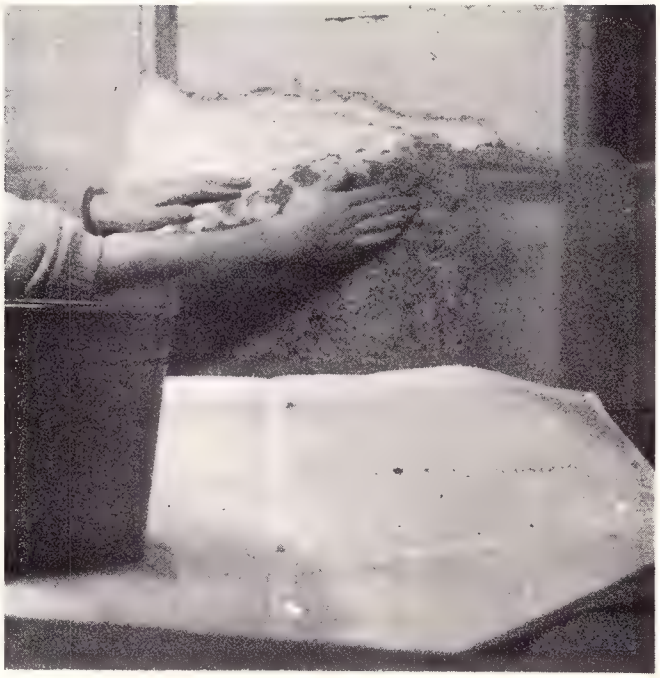
TO any model rail who has been forced to tear up his railroad through change of residence, or merely to enlarge or relocate an existing pike, the problem of breaking up wire and plaster scenery presents one of the messier aspects of the hobby.

A few years ago the writer sold his home and one of the most disagreeable tasks associated with moving was that of dismantling a plaster-scenicked railroad. Believe me, plaster mountains are infinitely easier and cleaner to build than to tear down. And the dust and plaster chips resulting from this operation leave something to be desired!

It was during construction of the present Detroit, Huron and Erie Railroad that a definite decision was reached on the building of scenery. If this road was going to be scenicked, it was NOT going to have the usual plaster scenery. What then would be a good substitute for plaster—something easy to work, clean to handle, and above all, a material that would not result in a basement full of debris if the railroad ever had to be dismantled? The answer: papier mache, of course. What better material could be used? With old newspapers as a nucleus, its cost is even less than plaster. If properly prepared, papier mache's workability and plastic qualities surpass plaster. But most important, if a papier mache mountain or tunnel ever has to be razed, rest assured that the operation can be accomplished with a minimum of mess and bother. In most cases hardened papier mache can be "peeled" or broken from the wire screen without damaging the screen appreciably.

A bucket, a box of starch, and a bundle of old newspapers are all that you'll need to start making papier mache. The paper is torn into tiny shreds, then mixed with starch and hot water in bucket.

Using screen wire over rough wooden framework as a base for your scenery, begin spreading mix using fingers, trowel, or spatula. Thickness of the mix on screen is not critical; ¼ to ½ inch is about right.



Hardened plaster, on the other hand, clings to the screen and presents some difficulty if it is to be re-used.

Let's make some papier mache. To assure a good mixture papier mache should be prepared as follows:

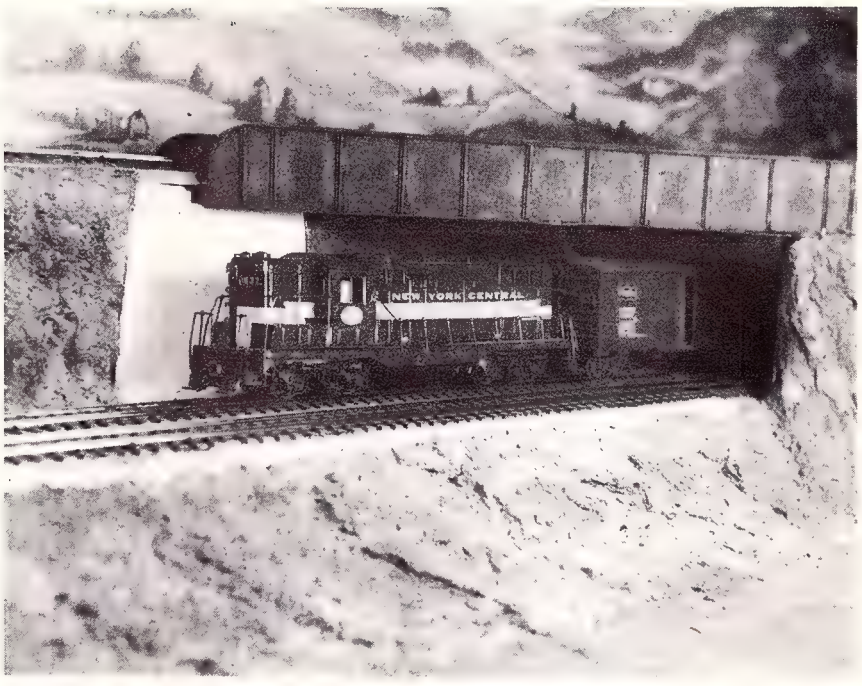
1. Tear newspaper into pieces about 1" square or smaller. The smaller the size, the better the mixture that will result.

2. Thoroughly soak the torn newspaper for about forty-eight hours prior to scenery construction. Boiling hot water will speed up the soaking process. An old bucket or washpan makes an excellent container for preparing the "mix." Just be certain the container does not leak.

3. After the paper has completely soaked, add about one quart of thick laundry starch and stir well. One cup of starch powder added to a quart of hot water is about right for a standard water bucketful of papier mache. Less starch can be added if the quantity is smaller. The addition of starch provides the bonding and hardening qualities for durable scenery, but more important, starch furnishes a plastic-like consistency to the mixture so that it can be easily applied and molded to any shape or contour. It is in this respect that starch is superior to glue size.

4. When the starch is thoroughly integrated with the papier mache, application may begin.

Application of papier mache to wire screen can be made with a spatula, putty knife, or by hand. I have tried various methods but there is no real substitute for the human hand. If the mixture appears to be too watery upon application, drain off some of the water from the container or squeeze each handful slightly before applying it to the screen. You will find just the right consistency after applying a few handfuls. Unlike plaster, you can work at a leisurely pace because there is no danger of the mixture hardening before it's all applied. So, let your artistic talents run wild when you are forming those hills, valleys, and washouts — you've got all the time in the world!

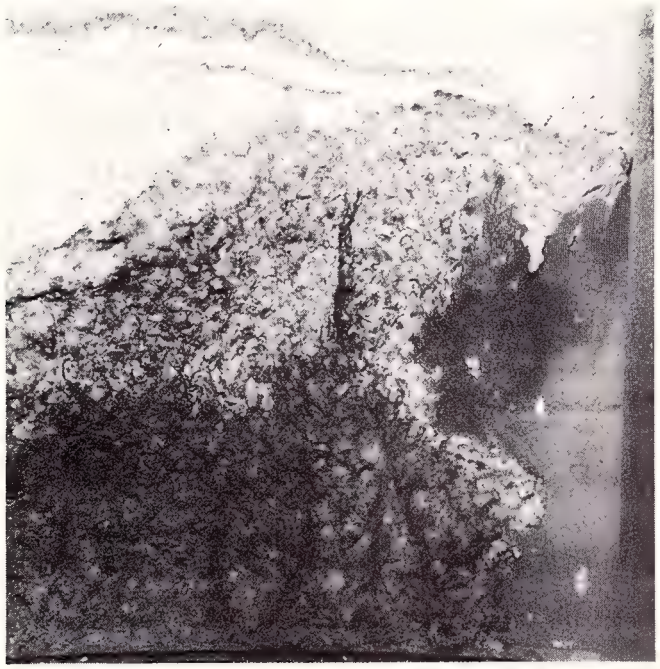


A GP-7 growls through papier mache countryside with a freight. No danger of this train jumping the track to a concrete floor hundreds of scale feet below with this realistic scenery to break any falls.

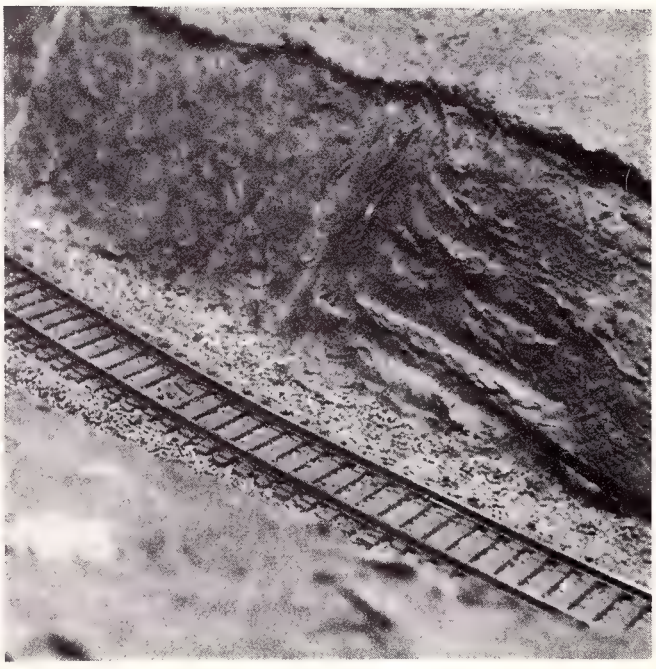
It will take anywhere from a week to ten days for papier mache to dry and harden. During this time you may cut or imprint any earth or rock formations you wish. Real stones and small twigs fashioned into tree stumps add to the attractiveness.

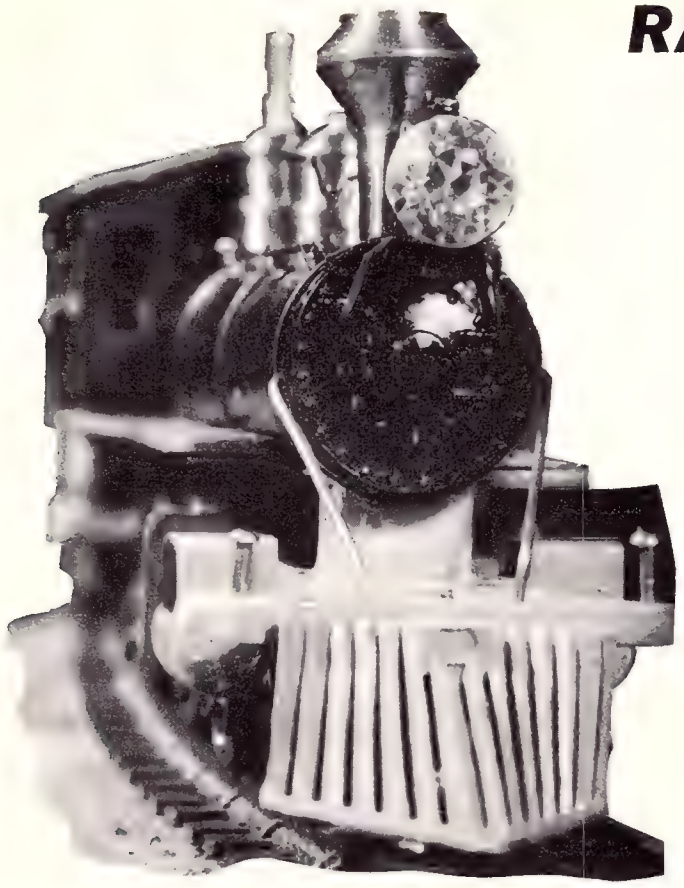
After hardening, papier mache scenery may be painted to individual taste and color. Any dull oil or water-soluble paint may be used to provide a realistic blend of natural coloring.

Wet grey mix at lower right turns almost white when dry with nice uneven texture. Rivulets and other shapes may be pressed into the mix after applying mix to screen. Drying time is about one week.



Branch line runs through a completed cut. Mache may be painted with almost any type of paint. Flock or artificial grasses should be spread out over a thick coat of enamel, or some other adhesive substance.





RAILROADING ON THE H & P

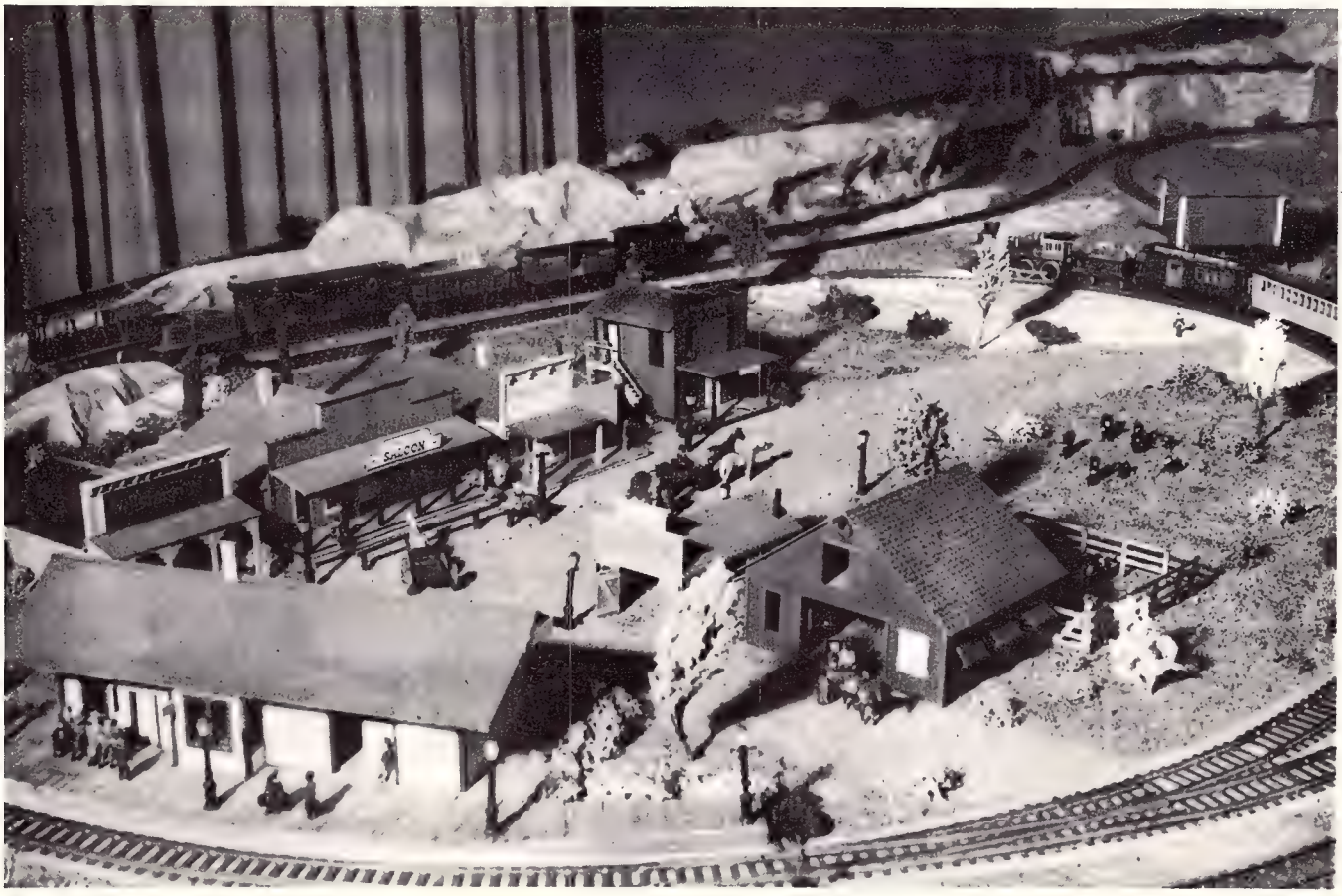
by Hugo J. Eberlein

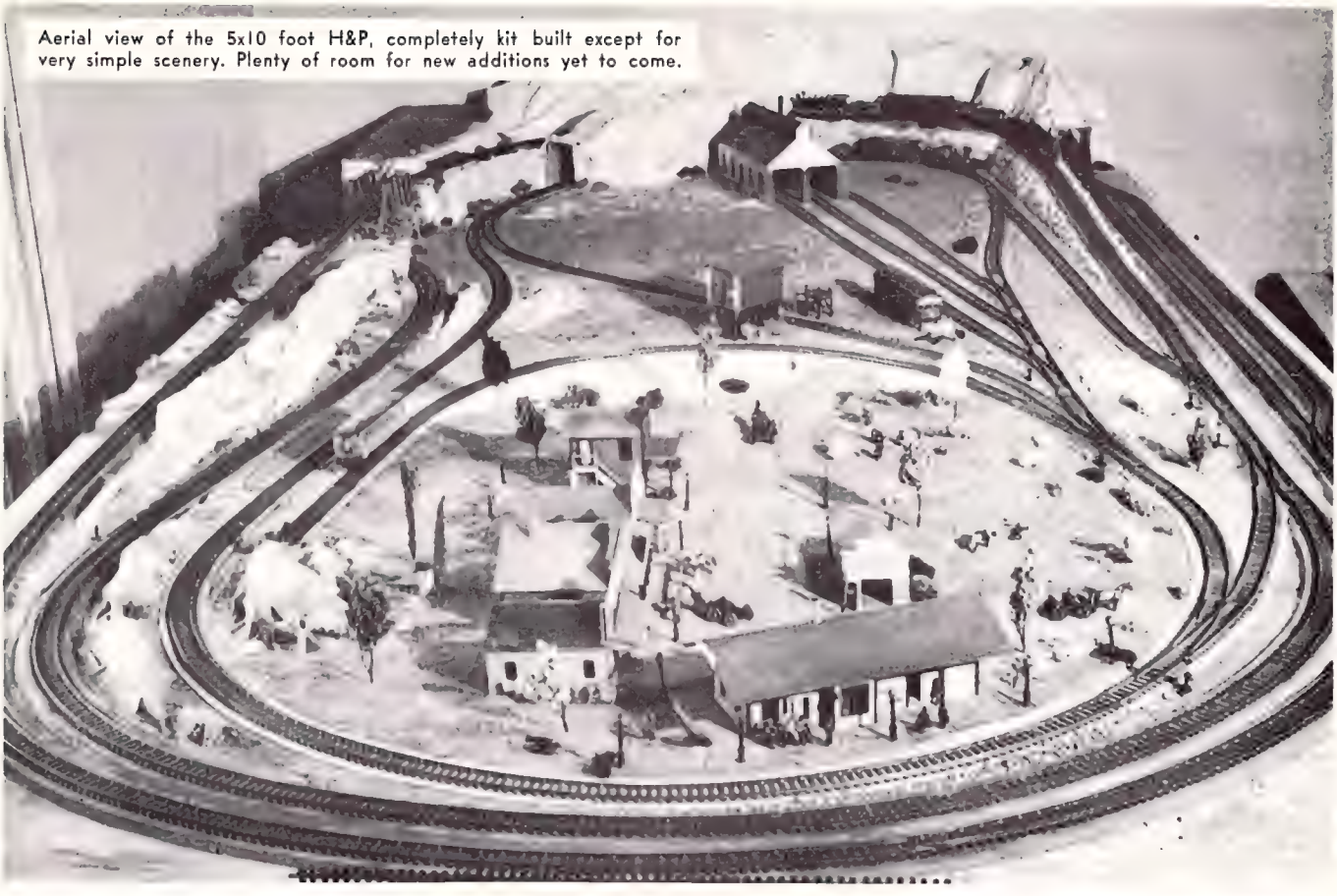
The H&P is completely kit built, yet if anyone else were to build exactly the same layout and rolling stock, chances are it would come out much differently. Scenic treatment is simple.

THIS article is strictly for us amateurs, so if you're already a full fledged model rail you'll find familiar reading here in the story of how a small model railroad was born.

There's about 1½ miles of HO track in this 5x10 foot HO layout, scale length of course. All of the loco-

Ayres kits went into the building of this oldtime Western village. Except for individualized paint coloring and the addition of tiny details, no changes were made in structures. Wells Fargo building is Suydam kit. Lamps, figures, wagons, are available at hobbyshops.





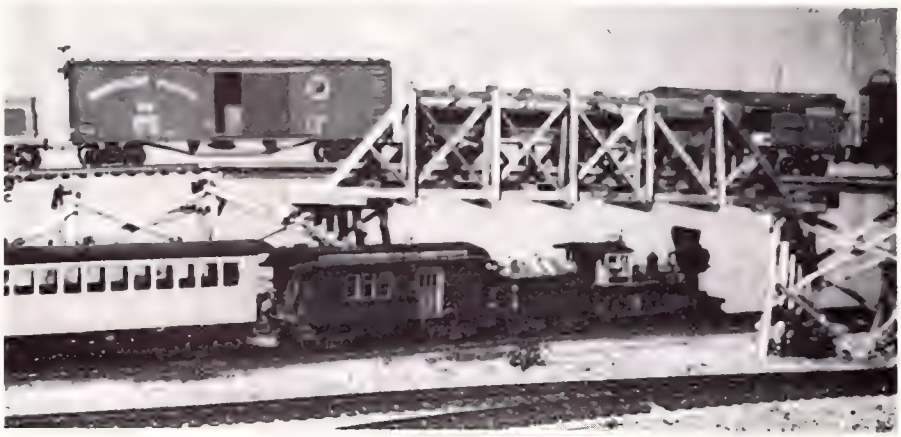
Aerial view of the 5x10 foot H&P, completely kit built except for very simple scenery. Plenty of room for new additions yet to come.

motives, cars, buildings, and bridges were built from kits. All of the scenic accessories were bought commercially and the only non-commercial item was the scenery.

Have you ever read where Joe Doakes scratch built an engine or where Sam Schultz converted one so that it looks like a masterpiece out of the latest roundhouse? You say to yourself, I don't know how to operate a lathe or how to solder, and when I look at a fancy wiring diagram my head swims. And when they talk about a Selenium Rectifier, you say, "I never even met her." Well, you just described the person who built the Huff 'n Puff Railroad.

Everything was built from kits. All you have to do is read the directions that come with them and don't think that because they are kit built, they'll all turn out alike. They don't. A friend of mine recently brought over some of his equipment and although we both had a Mantua Belle and a Laconia-Binkley Sierra combine, different paint schemes and details gave both altogether different appearances.

If you're new to scale model railroading and want to graduate from the ready to run train set, visit your local hobby shop and buy a few kits. It's hard to go wrong by following the directions. My railroad started with one engine, a car, and an 18" loop. It's still growing. Model railroading is even more fun than television!

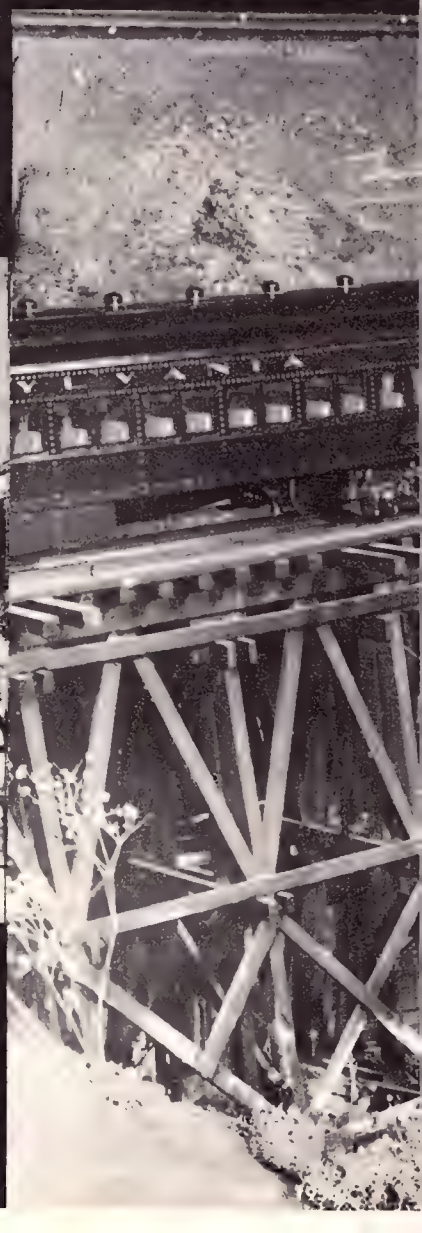


Old time straining beam timber trestle fits in with period cars.

Figures add life, realism to layout, come painted and unpainted.

We'll pay $5 or better for photos appearing in this section. Photos must be sharp, preferably 4x5 or larger. Mail to RMC, Ramsey, N. J.

Plastic model of old time General locomotive stopped on track in old time Western village on layout of Chester Flowers, of Chicago, Illinois. No people around because of gold strike in hills, says Chet.



New York Central Mini-Scale Hudson clatters over a trestle with a string of Pennsy coaches as an Erie S class Berkshire thunders by on the lower level. Snapped on O layout of Model RR Club of Buffalo.

Dioramas can add much more depth to your pike than plain painted backgrounds. The two dioramas at the top of these pages were built by Lloyd Giebner as displays for the Santa Fe Railroad. Both are less than one foot in depth, but appear to be considerably deeper.

YOUR NABORS PIKE

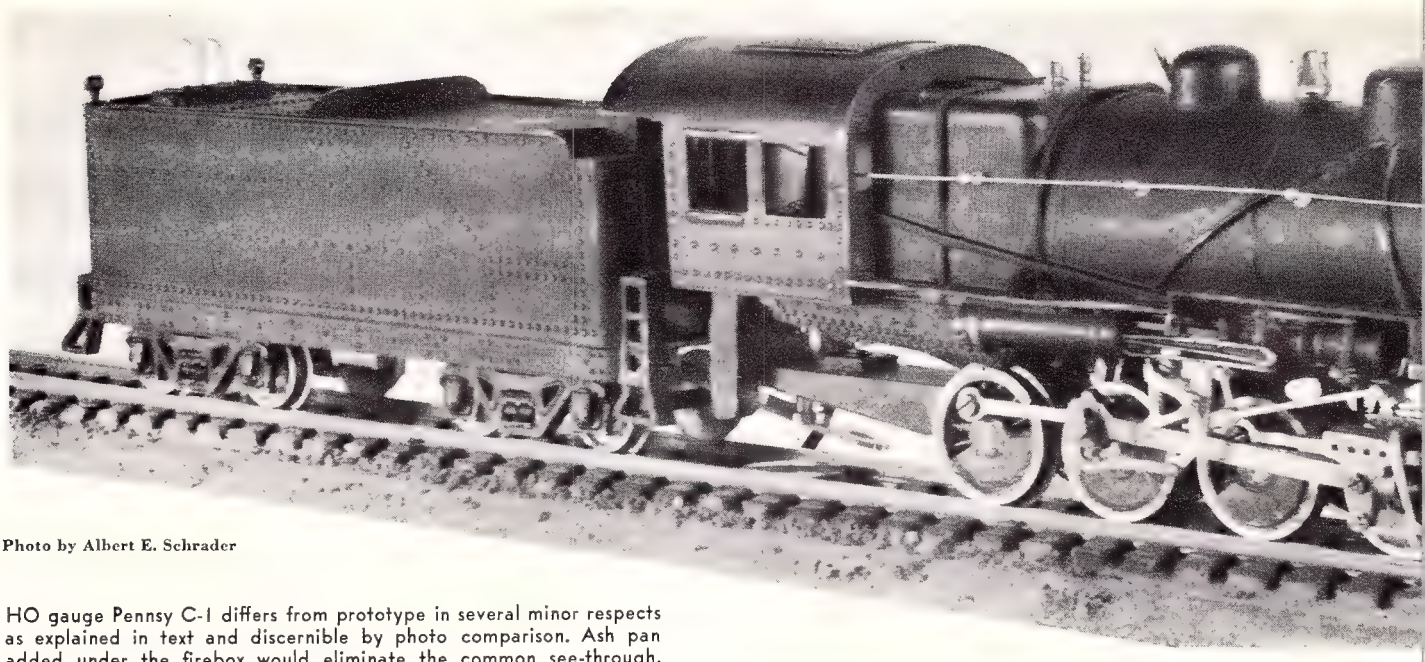


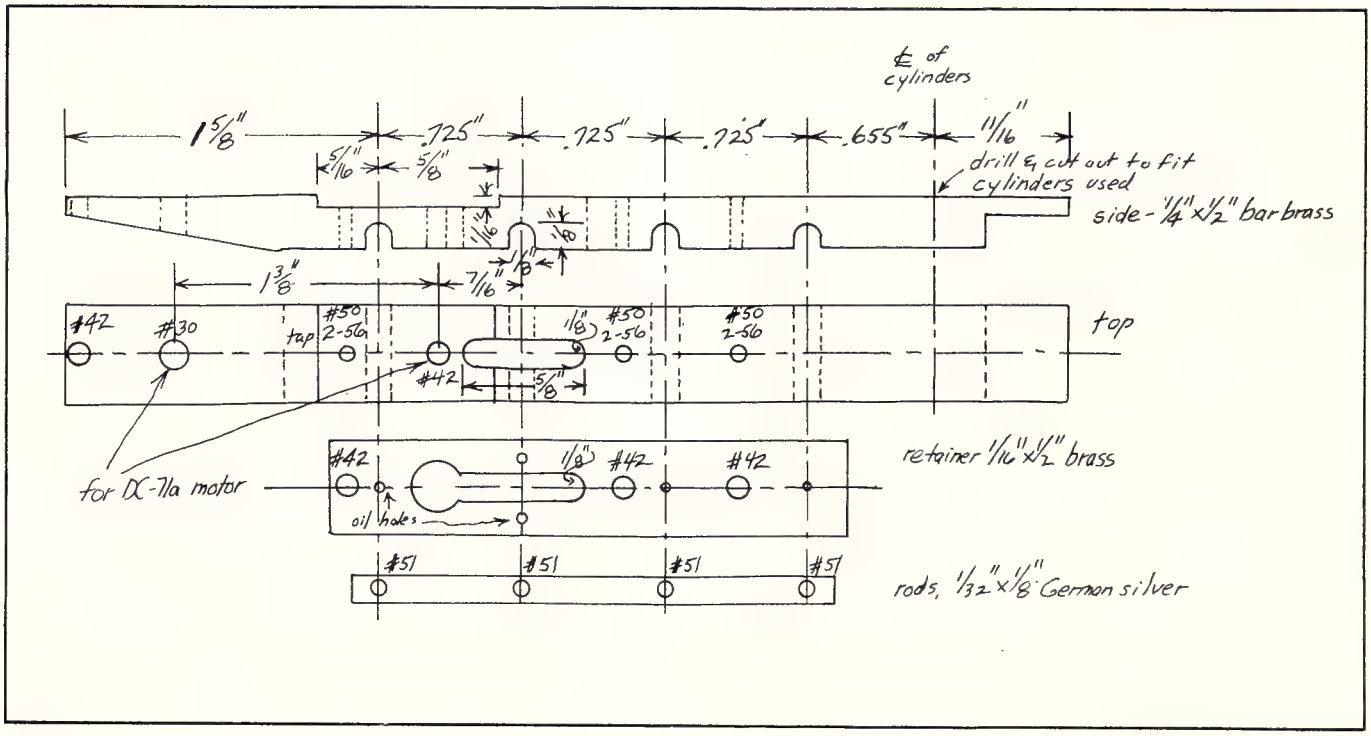
Photo by Albert E. Schrader

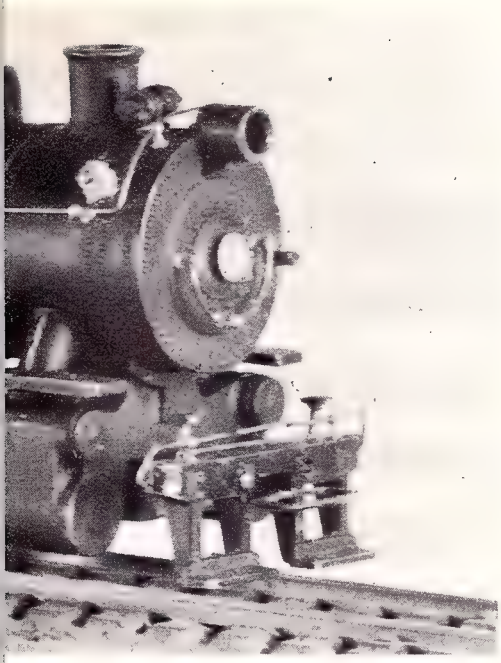
HO gauge Pennsy C-1 differs from prototype in several minor respects as explained in text and discernible by photo comparison. Ash pan added under the firebox would eliminate the common see-through.

ONE Pennsy loco kit unavailable is the class C-1 0-8-0 switcher, perhaps because the P.R.R. never did have over a hundred of them in comparison with several hundred K-4s, L-1s, H-9s, etc. It has been a locomotive that has been infrequently modeled, principally because the size driving wheel required has not been available — 56" diameter. Available drivers jump from 51" to 61½" so that neither could be used very well for a half-way between dimension, altho a few C-1s have been built using 51" driver centers with overthickness tires. Just recently I discovered that 55" driver sets were available from Pacific Fast Mail, and that opened up the entire project.

These PFM imported 55" drivers, with rather small counterweights, sell for $1.75 per pair ungeared, and $2.25 per pair with gear AND worm. Crankpin screws are included with each set of wheels. However, the axles instead of being ⅛" diameter (.125") as on all domestic drivers, are only .119", giving a little too much slop when fitted in bearings meant for .125" axles. (If you just drilled axle holes and cut them out without insetting bearings, of course you could drill .120"). To get around this problem I had Joe Dorazio, R.D. No. 2, Norristown, Pa., remount and requarter the drivers on regular ⅛" axles, coincidentally retapping the crankpin holes 0-80 so that standard American crankpins could be used. This cost under fifty cents per set of wheels when done with some other work which I shall go into shortly.

The counterweights on the PFM drivers are rather skimpy in comparison with the hefty, hot, and hearty ones on the C-1. Consequently I made new counterweights as follows: In my jewelers lathe — any lathe would do — I stuck a length of ½" diameter brass rod, trued it up, then drilled a 3/16" hole in the center. From this I sliced, with a jewelers saw, very thin doughnuts of metal. Actually only two are needed since





PENNSYLVANIA C-1 0-8-0

by William M. Schopp

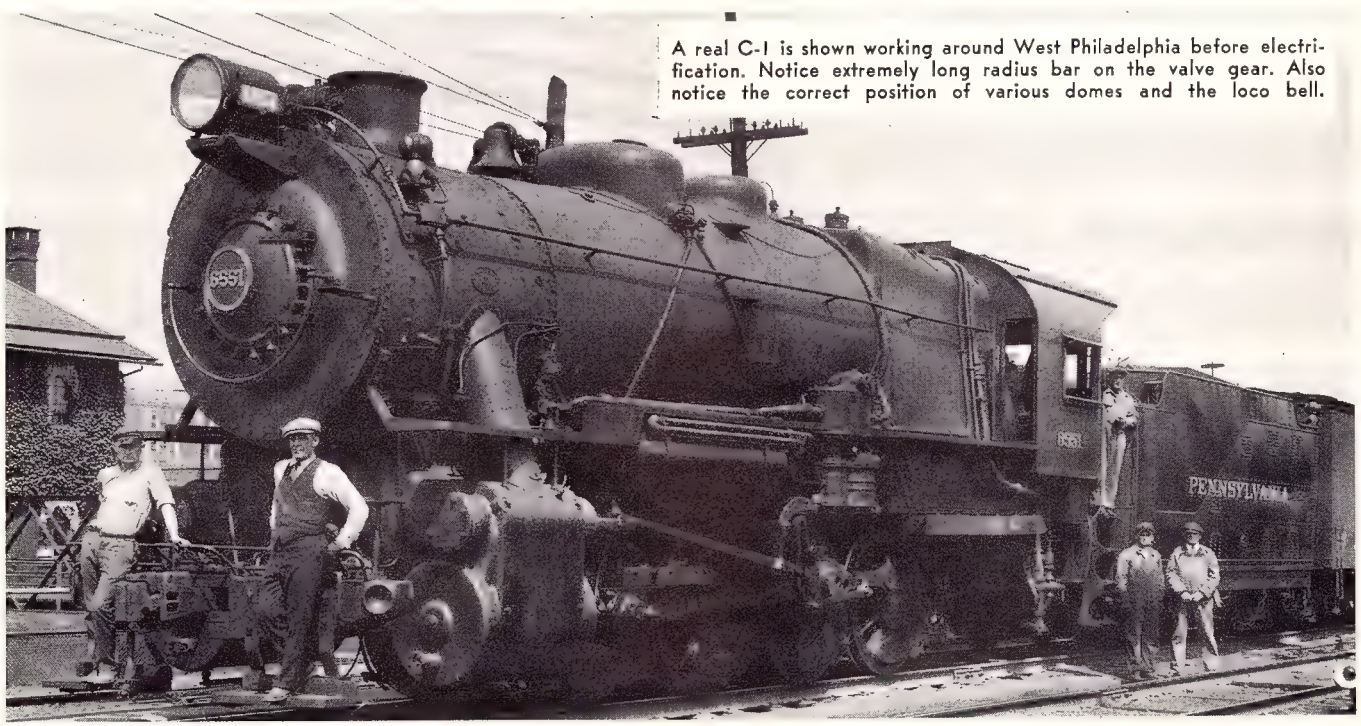
Modelers wanting a replica of the Pennsylvania C-1 0-8-0 will have to build their own. It's easy if you follow these instructions given by Bill Schopp and use available commercial parts.

less than half is required for any counterweight, but a few extra can be done at the same time with little trouble. The same could be accomplished by marking out the circles on flat stock and cutting them out with a jewelers saw. I fastened the new counterweight overlays to the drivers with Miracle Adhesive, although a friend who is building another C-1 along the same general lines fastened them in with 00-90 screws through the back of the original counterweights, filed off flush at the front. Note that the counterweights on the main drivers (third pair) are a full half-circle.

The boiler is a Penn-Line consolidation or Atlantic boiler (same thing) but mine (and perhaps yours will be too) is from an old English consolidation casting set. There are lots of these consolidation casting sets laying around unused. For a DC-60 or PM-1 motor, no additional work need be done on the boiler casting, if you drive from the second axle. However if you'd like a DC-71 motor not only must the boiler backhead be cut out but the interior from the rear of the steam dome back must be widened out to let the brush rigging fit inside the boiler. The cab floor must be cut out until only the ⅛" thickness of the rear cab support bracket is left. The drive is then to the third axle since you cannot move a DC-71 any farther front. It will fill up the cab! The PFM worm is used in either case.

The next essential is a frame. I was all set to make this with my usual channel brass method (Nov. 1955 RMC) but willingly let Joe Dorazio talk me into a milled bar brass frame since I had been anxious to try that method for some time. Should you choose to use channel brass, refer to the above mentioned article, but take the important length dimensions and wheel spacing from the frame drawing shown on these pages. The motor would sit on a peninsula of the brass channel top which would be sunk

Photo E. P. Alexander Collection



A real C-1 is shown working around West Philadelphia before electrification. Notice extremely long radius bar on the valve gear. Also notice the correct position of various domes and the loco bell.

Parts List for Pennsy class C-1 0-8-0 Switcher

FRAME: milled by a machinist as per diagram. Get price not only on frame but on parts marked with asterisk (below) which can be furnished and mounted at little extra charge above list.

MOTOR: Pittman DC-71a*

DRIVERS: Pacific Fast Mail, remounted on 1/8" axles as per article*

Crankpins: any, 6 short, 2 long

Pilot: Penn-Line H-818* .75

Cylinders:
- Penn-Line E-861* cylinder block 1.50
- Penn-Line C-862, crosshead guide support, 1 pr. .75
- Penn-Line C-863 guide rods, pr. .15
- Penn-Line 6602 R & L crossheads, pr. .75

Boiler:
- P-L B-710, must be cut out for DC-71, but may be left intact for Mantua PM-1 motor driving second axle 6.50
- P-L 25618R boiler mounting screw .03

Tender: P-L low side kit, P-620 6.95

Valve gear: Varney 1779-K with some changes as per article 4.50

Fittings:
- 2 Varney 1633 air tanks at 20c.
- 1 Varney 1856 whistle at 10c.
- 2 Varney 1857 pop valves at 10c.
- 1 Varney 1626K power rev. kit at 50c.
- 1 Varney 1631 Generator at 20c.
- 1 Kemtron ML-103 markers at 50c.
- 2 doz. Kemtron L-561 handrail posts, short, at 55c per doz.

Wire, brass, 00-90, 0-80, and 2-56 screws, money, patience.

down between the sides and soldered in place. Joe's price for a frame with retainer plate and drilled but unshaped side rods was surprisingly low, and he even mounted the DC-71 to check the mesh of worm and gear and milled out the inside of the boiler to clear the big motor.

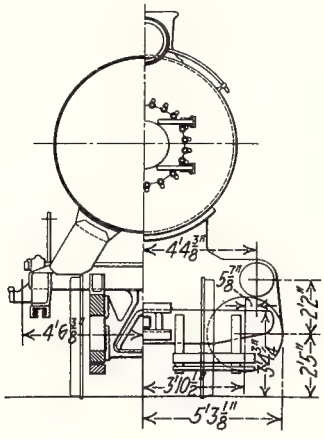
The cylinders at first glance might seem to be Penn-Line K-4 cylinders but these have the running board part down flush with the top of the valve chest, whereas the C-1 has them up somewhat as you see. The only cylinders suitable are Bowsers, either brass for the Mountain, or zamac for the Pacific, and these are for two guides. Accordingly the guide holes were plugged up and new guides inserted in new holes spaced so as to utilize Varney Laird type crossheads. My friend who is building the same engine is using Penn-Line Atlantic cylinders (which have no running boards attached) which can utilize the regular Penn-Line guides and crossheads with a little more prototype appearance. I think now that this is a better idea because having running boards attached to the cylinders I could not put in the characteristic little braces from running boards to smokebox at the very front. The cylinders are attached to the frame with two 2-56 screws up from underneath into holes you'll have to drill and tap yourself. The boiler may be attached with a long Penn-Line screw down through the stack, but on an old English boiler you'll have to come up through the cylinders into a tapped hole in a brass block inserted in the hollow space under the stack.

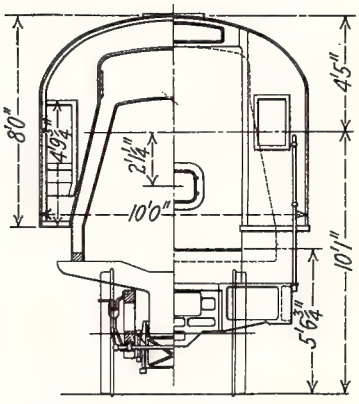
The pilot is Penn-Line L-1 with back extension cut off and attached with 00-90 screws through the front into the rather thick front end of the frame. Coupler lift bar, coupler, and steps can be easily added to it before attachment.

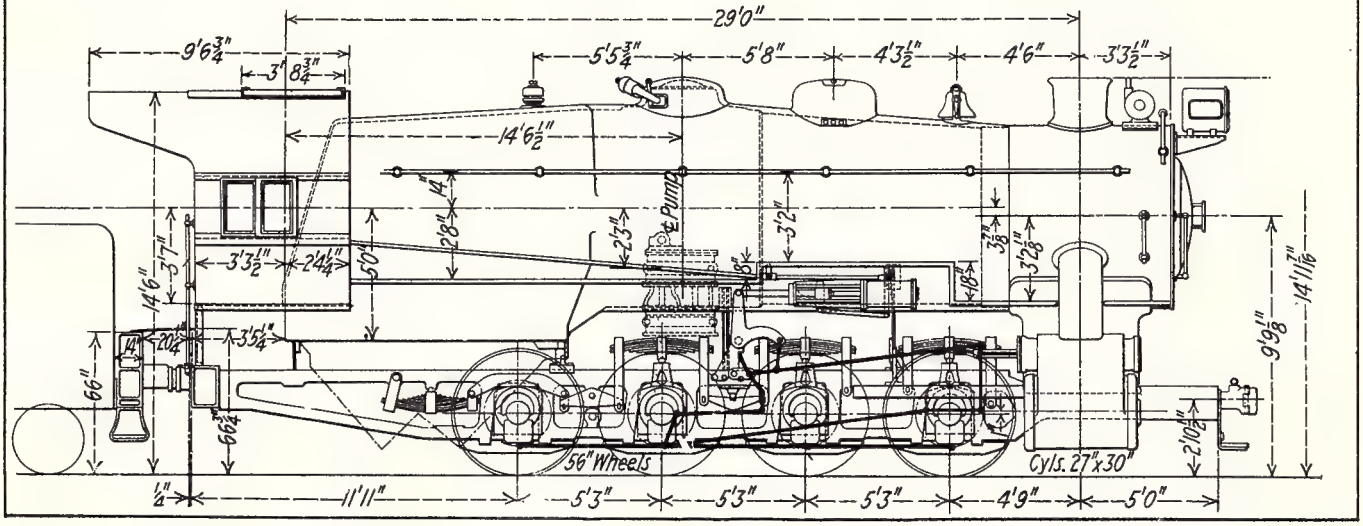
The boiler is quite close in dimensions to the actual C-1 boiler but you will note that the C-1 has a shorter cab. However I let this discrepancy ride in the interests of simplicity. Likewise the C-1 sand-dome is behind the bell, rather than as shown on the model photo and as is furnished for the Penn-Line locos. To

Drawing courtesy Simmons-Boardman Publishing Co.

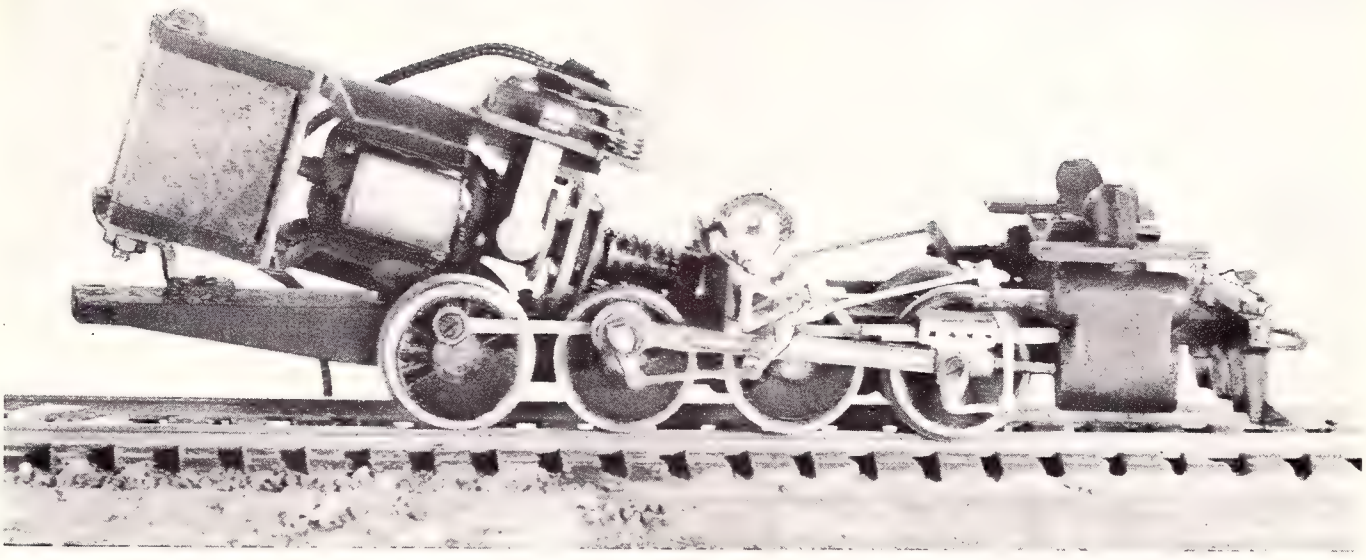
DRAWING SHOWN FULL SIZE HO GAUGE







Author's frame was custom milled from solid bar brass, resulting in smooth running mechanism. Use of DC-71a motor requires that inside of firebox be milled to clear brushes, avoid short circuits.



prepare for working GOW headlight I drilled into the headlight casting No. 29 until the drill could be seen to start bulging out the back. Then I angled the drill downward into the hollow space under the stack. This let me, later on, insert a GOW bulb from the inside. This has the advantage that the bulb can be pulled out with wiring and all when you remove the superstructure, rather than your having to unsolder the leads or be extra careful not to jerk them.

The boiler front is decorated with a Model Die Casting 0-6-0 number plate and a semi-coupler hand-rail set in short (Kemtron or Silver Streak) handrail posts. The cast-on generator can be replaced with a Varney or Kemtron casting, while the bell can be any of several makes on the market. Pop-valves and whistle are by Varney.

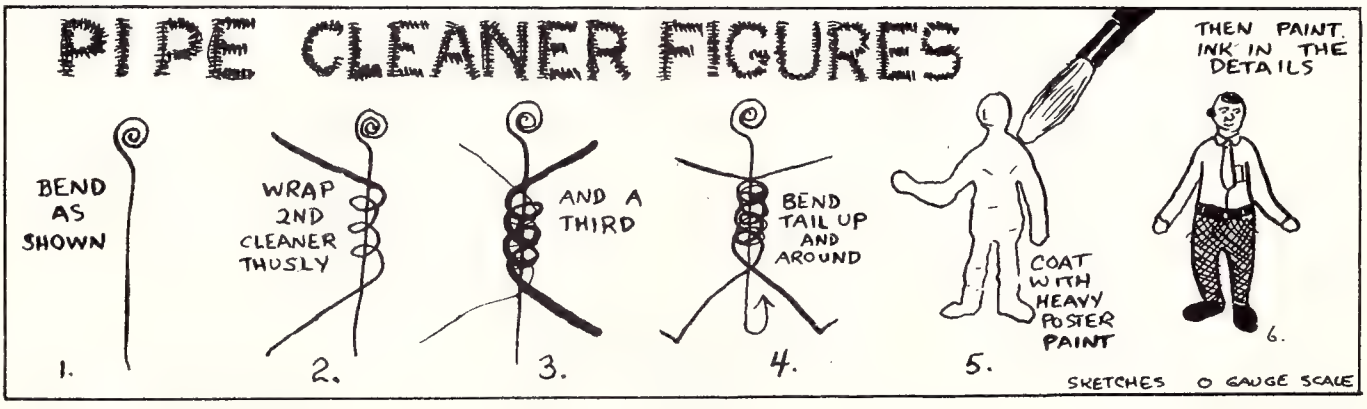
The boiler casting does not include running boards, so I made them up from 1/32" brass. One end of each is cut to fit into the slot at front of cab, while the front end is soldered to a crosspiece which is also soldered to the underside of the boiler. The right running board humps up over a power reverse gear (which faces toward the rear), a Kemtron, Varney, or Warren casting. The left running board runs straight front to the step behind the cylinders, but is broken by an airpump over the third driver. Airtanks can be attached to the underside of the running board with 00-90 screws down from the top. The running boards themselves can be made more rigid by soldering them to the boiler, a job which must be done quickly since the lead base alloy used in the boiler will puddle up on you if you are not careful.

Hand-rail posts are provided for by drilling No. 65 holes, but if you want them to show up, do not install until after boiler is painted, along with bell, whistle, pop valves, and number plate. The hand-rail arches up over the smokebox behind the headlight, a thing that is easy if you make it in two pieces, hard if you try to shape it in one piece. Marker lights are Kemtron.

The valve gear is a little different from most in that the hanger faces frontwards and the lift link to the radius rod is attached to the radius rod between the combination lever (at the front) and the knee-shaped link. Measurements of the valve gear on the prototype drawing and observation of the photo of prototype show an extra long radius rod, but this does not happen on a model. In fact a standard Varney super-consolidation valve gear set (1779-K) is used (but assembled differently) except for the final eccentric rod which is something that you will have to form yourself from 1/32" German Silver (Schrader Instrument Co., Independence, Iowa) or pick from your valve gear scrap box. The eccentric is Mantua and is held in the regular Mantua style with a piece of tubing over the main crank-pin pinching it against the underside of the head of that pin. My idea is that the valve gear should be removable with screws, not riveted to the hangers as specified, so I have it attached to the hanger with two 00-90 screws each side, to the crosshead by one 00-90, and the eccentric is attached to the main crank-pin by the above mentioned long shouldered 0-80 screw.

My friend's loco used Varney consolidation parts as much as I did except that he substituted a Yardbird (English) valve gear hanger, facing forward, and so omitted the lift-link and angle-crank business as most model valve gear sets do today anyhow with little apparent loss in realism.

The tender is a standard Penn-Line low side tender as used with the H-9 and E-6.

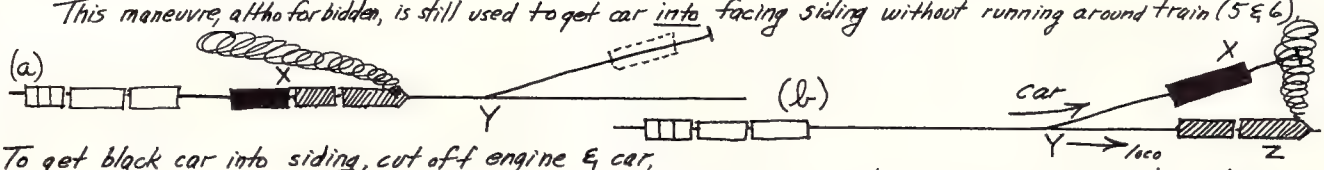


RAILROAD OPERATION #2-B

FREIGHT WORK

8 The "flying switch"

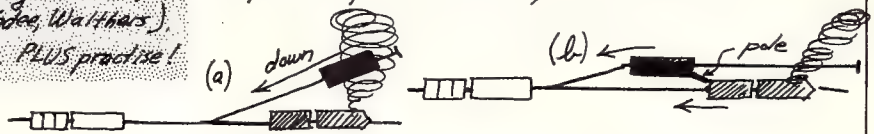
This maneuvre, altho forbidden, is still used to get car into facing siding without running around train (5 & 6).



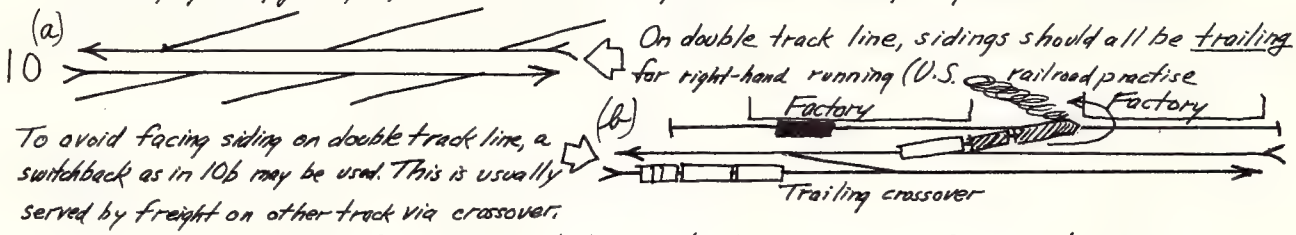
To get block car into siding, cut off engine & car, speed up. Brakeman riding car uncouples it at about X. Engine speeds up past switch & stops at Z. Brakeman at Y throws switch, letting car coast into siding where brakeman X sets handbrakes. Engine may then spot car exactly where wanted.

The flying switch is almost unheard of in model railroading. It requires very free rolling cars & movable ramp automatic uncouplers (Kadee, Walthers). A descending grade also would help. PLUS practise!

9 To get car from facing siding descending grade & gravity may be utilized (a) or a push-pole (b) if siding is parallel to main line.

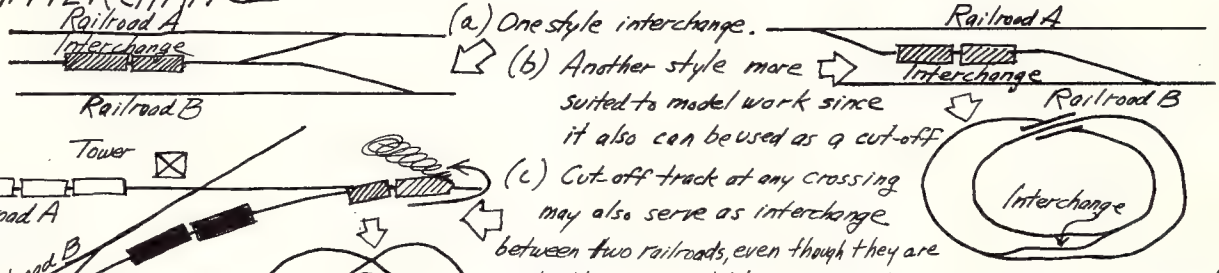


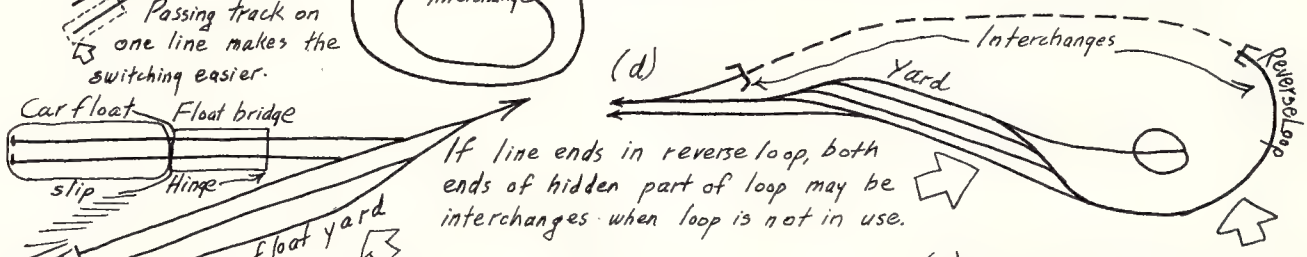
10 On double track line, sidings should all be trailing for right-hand running (U.S. railroad practise).



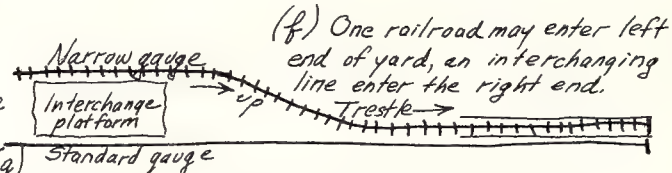
To avoid facing siding on double track line, a switchback as in 10b may be used. This is usually served by freight on other track via crossover.

11 INTERCHANGE of traffic between railroads is necessary for much traffic.

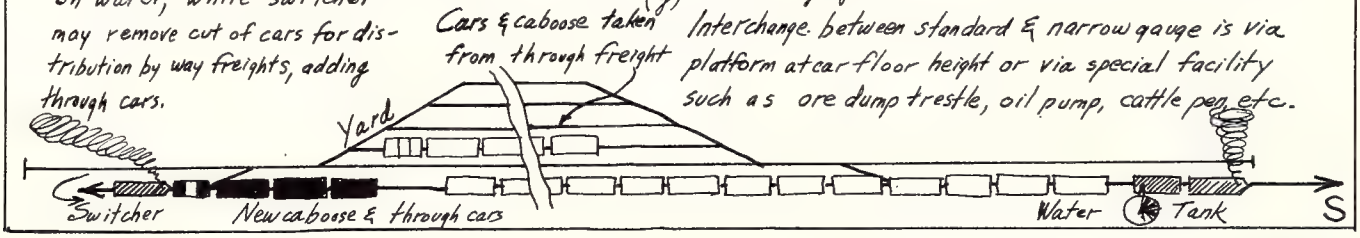

Railroad A
Interchange
Railroad B
(a) One style interchange.
(b) Another style more suited to model work since it also can be used as a cut-off
Railroad A
Interchange
Railroad B
Interchange
Tower
Railroad A
Railroad B
(c) Cut-off track at any crossing may also serve as interchange between two railroads, even though they are really the same model line & same train later picks up same cars!
Interchange
Passing track on one line makes the switching easier.


(d)
Interchanges
Yard
Reverse Loop
If line ends in reverse loop, both ends of hidden part of loop may be interchanges when loop is not in use.
Car float
Float bridge
slip
Hinge
Car float yard
(e) Cars may be interchanged via car float or ferry.

12 THE THROUGH FREIGHT will stop at intermediate yards only to change crews and/or engines, take on water, while switcher may remove cut of cars for distribution by way freights, adding through cars.


(f) One railroad may enter left end of yard, an interchanging line enter the right end.
Narrow gauge
Interchange platform
up
Trestle
Standard gauge

(g) Interchange between standard & narrow gauge is via platform at car floor height or via special facility such as ore dump trestle, oil pump, cattle pen etc.



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RAILROAD MODEL CRAFTSMAN

Including "The Modelmaker" (Est. 1924)
and "Miniature Railroading" Magazines

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2-RAIL

The principles of two rail operation for your model railroad layout should be clearly understood. Then you really can run trains.

by the Layout Doctor

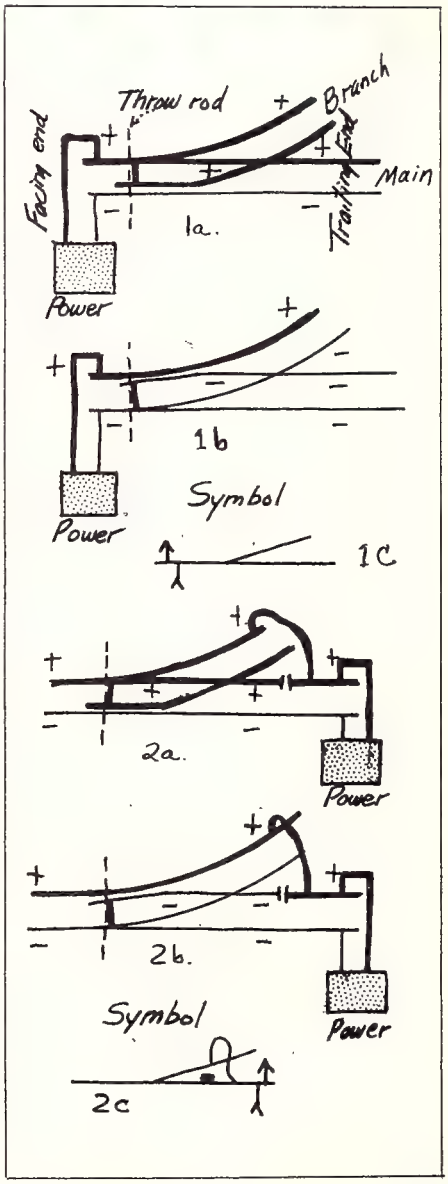
Before we start, I'd like to make it clear that the explanation of two-rail circuiting and location of rail-gaps and feeders expounded here is NOT applicable to Snap-Track, except regarding wyes and reverse loops. This is the "traditional" Dechert system of two-rail which uses non-insulated frogs in the switches, and, in which the track switch also acts as an electrical switch in setting up the polarity of the rails past the switch.

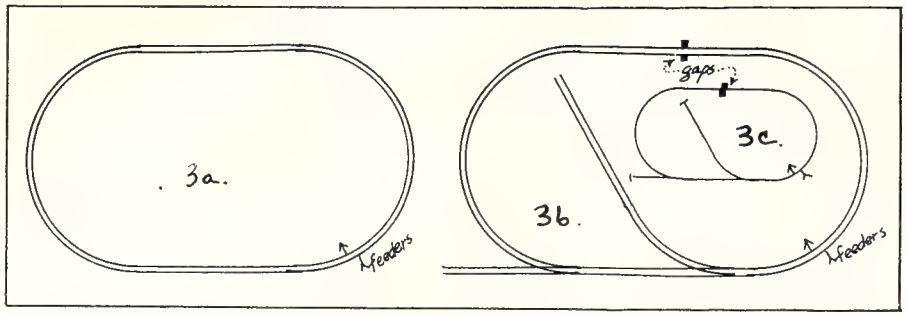
WHEN I wrote an article on Understand Two-Rail in the old MINIATURE RAILROADING MAGAZINE back in 1939 (on which parts of this article are based) I had to go into great detail on the differences between the then very widely used outside third rail system, or overhead trolley wire, and the then comparatively new Dechert system of two-rail, named for Jim Dechert, now resident in Santa Barbara, who discovered and utilized the principles first and best. Now three rail is dead except in O gauge road and overhead trolley. Everything is two-rail. I repeat here from that earlier article a dictum of the great Uncle Eric Lanal that *when a two rail engine is running west and you pick it up and turn it around, it will still run west,* even though the other end now faces "front." This important bit of information lets us have all our two-rail locomotives wired to run the same way on any given setting of the reverse switch. The standard here is that *when the right-hand rail is positive (if D.C. power is used) the engine should run forward,* something that is automatically taken care of in the design of all kit locomotives and most ready-to-run engines. You don't have to worry about it, but should you want to know which wire is positive for a given setting of your reverse switch, make a glass of salt water and dip both wires, live, in it without touching. The one about which bubbles form is negative, so the other is positive.

Normally, too, on a steam locomotive the insulated wheels are on the left-hand side of the engine, the right-hand side of the tender. On diesels it should be the same, but does vary.

The basis of the whole Dechert system of 2-rail which is used universally, except for Snap-Track, is that the track switch (turnout) also serves as an electrical switch. Fig. 1-a shows a power supply connected to the facing point end of a track switch. If we let the heavy wires and rails represent positive polarity at a given moment, then the light wires and rails will represent negative. The two movable points of the switch are tied together physically and electrically by a tie-bar of metal, but they are thrown by a throw-rod of fibre as a rule which of course is insulated from the outside of stock rails of the switch where it passes under them. On some switches where a metal throw-rod is used, it is cranked to duck under the insulation of the tie-strip and so is also insulated. On home-made switches a metal throw-rod may be insulated with Scotch Tape.

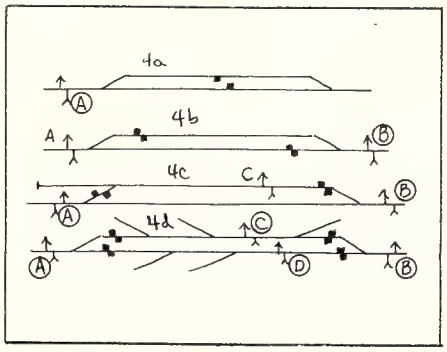
With power fed from the facing point end of the switch, notice that all rails except the straight rail at the bottom are positive. Trains will only run along the straight pathway of the "main" here. Both rails of the "branch" which may be a siding are positive, hence there is no circuit and nothing will run here. There is no danger in leaving a locomotive or a





car sit here. No motor will run from two positive rails. It is dead.

If the switch is thrown to the branch, as in fig. 1-b, all rails except the curved stock or outer rail of the switch, are minus. Trains will only run up the curved pathway. Both rails of the main beyond the switch are negative, there is no circuit, nothing will run there. Of course the plus and minus may change places as the reverse switch is thrown. Fig. 1-c shows how the symbol used for a switch and for feeder wires—the arrow heads and tails are almost universally used now to indicate feed wires in this country, although in some of my older plans I used just a single arrow, later just two stubs without heads or tails. Little triangles are used for this symbol in England.



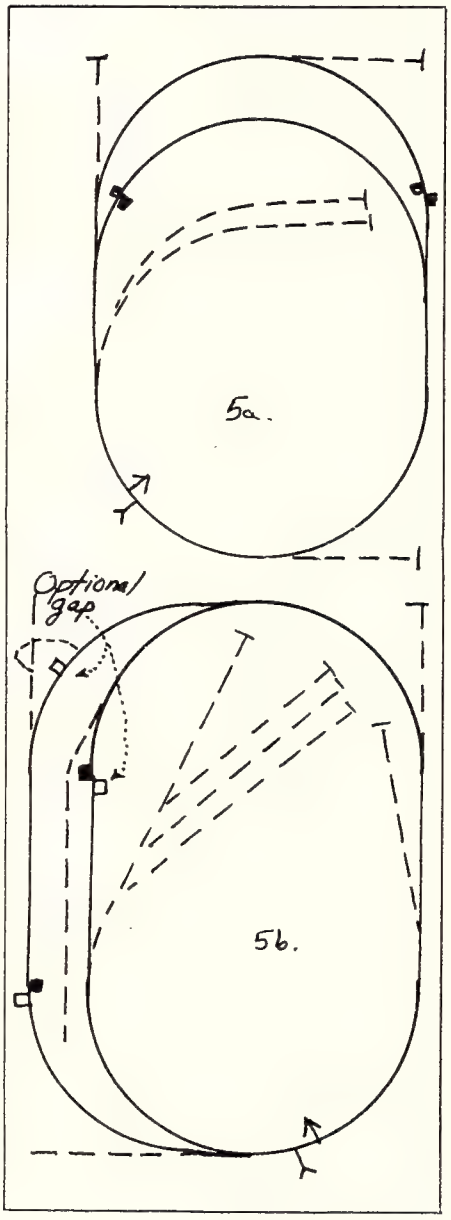
You can often design the two-railing of entire layouts with power fed from the facing end of switches, requiring rail gaps only between sections or blocks under separate control. However it often happens that it is more convenient or even necessary to feed power from the back or trailing end of a switch as in fig. 2-a. Here you will note there is a gap in the rail behind the frog of the switch *only on the track which is fed power.* Then there is a "jumper wire" from the fed rail around the gap and the whole switch to the "same" rail, as it continues on in front of the switch. These jumper wires may be soldered to the rails, or, if ties are plastic, to rail-joiners before they are slipped on the rails. Here only the straight stock rail of the switch is negative, all others positive as in fig. 1-a.

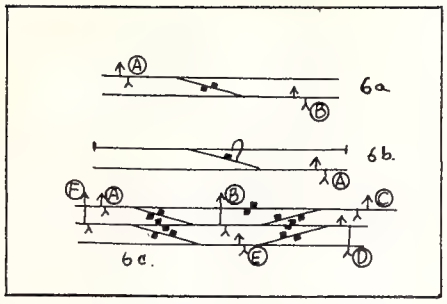
However when the switch is turned for the branch, the jumper wire permits power to flow correctly to the branch, actually as if it were fed from the facing end. The gap may be any convenient distance past the frog of the switch. Fig. 2-c shows how this is expressed in symbols. Some novices get the notion that there must be gaps in both frog rails behind every switch, but this is quite erroneous and can lead to a non-operating railroad. Gaps used to be just that, spaces left between rail ends well spiked in place, but of late plastic insulated rail joiners have come into almost universal use—although they do not have the strength of metal ones.

Some fellows have built whole railroads without any gaps, figuring to cut them all in later, but this is a time consuming procedure which prevents operation while the road is being built. The two-railing, that is to say location of rail gaps and feeders (and jumpers if required) should be worked out beforehand if you are working from a track plan, as you should be. Some changes may be required later to refine your train operations, but you should be able to run trains, even over switches, as soon as you get power into your road.

Fig. 3-a shows a simple oval of two-rail track. One rail can be positive, the other negative—or the reverse. There is no possible contact between them except through the wheels and the motor. But in fig. 3-b we have added a couple of switches. All will still run as long as switches are kept aligned for the main track oval. But let one switch be turned for a siding, and the whole layout will short out and nothing will run. This has been the experience of plenty of newcomers to the model railroading field who at once go into a tizzy and commence cutting gaps willy-nilly. (I point out here again, that this is not true of Snap-Track). Referring to fig. 1-a again, we see that it would be best to put the feeders at the facing end (or in front of) as many switches as possible. The same location as 3-a is possible, and the feeders will be in front of both switches: that is, both will point toward the feeders. Just so no electricity can sneak around the other way to the back of a switch when it is turned (which is what caused the short circuit above), we cut a gap in each rail of the oval somewhere at the back. If you had only the siding running to the inside of the oval, you'd need a gap only in the inner rail, the outer one being continuous. If you had siding only to outside of oval, you'd need a gap only in outer rail, the inner continuous. Sidings running both inside and outside require gaps in BOTH rails. It is a good idea anyhow to gap both rails when you are two-railing an oval because you never know where you will want to add a switch at some future time and it is easier to leave gaps in the beginning.

Actually what you have done by cutting the pair of gaps is to permit the oval to be opened out in a long straight track (in theory of course), with all or as many as possible, of the switches pointing toward the site of the feeders. The gaps may be located at any convenient site, not necessarily where drawn, just so you do not move them beyond a feeder or a switch. Feeders may be similarly located for convenience, but must not be moved beyond a gap or a switch. Gaps are usually drawn as opposite, but they need not be, just as close together as feasible; put them so as to avoid extra cutting of lengths of rail. Fig. 3-c shows how





the layout of fig. 3-b is usually depicted in a layout drawing. It is not practical from a drafting or space standpoint to always draw both rails, so we draw only one line which may be taken as indicating the center line of the track.

In layout 3-b or 3-c if an engine is rounding the oval counterclockwise and either of the switches is turned, the engine will stop in upper left part of oval since both rails will have been made the SAME polarity by the throwing of the switch. When both the switches are set for the main line, the train will be able to proceed. Similarly, when switches are lined for the oval, an engine can be stored on either siding.

There is no ONE certain way of two-railing a given track. It all depends on how simple you want to keep it which is a function of what you want to do. Fig. 4-a shows a passing siding on a single track line with but two gaps, one in each inner rail. The outer rail is continuous through and past the siding, so taking the place of a jumper wire such as would seem to be required from fig. 2-a, b, c. An engine will enter whichever track the entrance switch is set for, but will not go far across the gap unless the exit switch is also lined up for otherwise both rails past the gap will be the same polarity and there will be no power. Only one power feeder is required here, and of course all trains when they move will go at the same speed and in the same direction.

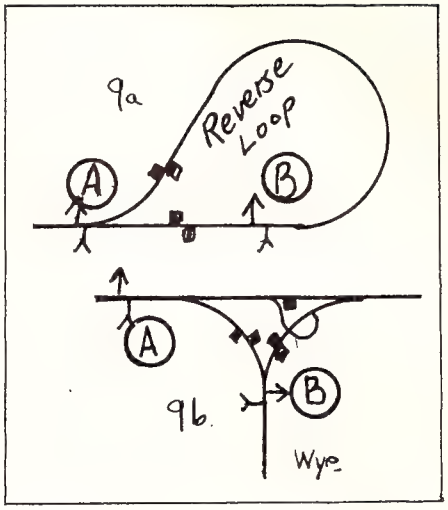
Fig. 4-b shows the same siding with some semblance of separate control. Trains from the right will take the right-hand (top) track and be under the control of power feeder B up to the pair of gaps at left. Trains entering lower track from left will be controlled by A to the pair of gaps at right. Beyond those gaps control will be by the other controller if the exit switch has been lined up; otherwise the train will not move.

In 4-c a third feeder C, has been introduced for the siding itself so that it may be controlled independently of the main line. I have shown a spur from the siding at left to show you how in some cases you have to put the pair of gaps between two switches. Fig. 4-d shows complete control of the passing track with four sets of power feeders (each fed by a separate block selector switch in cab or independent block control). The locations of feeders C and D have been chosen to put them on the facing end of as many of the spurs and industrial sidings off the passing track as posible, avoiding the need for jumpers.

Fig. 5-a is a typical oval with cut-off, wired as in 4-b, except that the separate feeders for each end are actually the same one owing to the oval. Fig. 5-b is essentially the same. Optional gaps have been indicated by hollow squares. The one at extreme lower left is for a trailing siding as per fig. 2-a. The one on the inner track is needed only if the optional dotted yard is put in. The one on bottom track only if the optional siding at lower right corner is put in. Actually I would put in at least these two optional gaps since I might want to put in those sidings later on.

When you have two tracks under separate control (A and B) as in fig. 6-a with a crossover between them, you always, even with Snap-Track, want to have gaps or insulated rail joiners between the switches of the crossover. However, one type of crossover where only one gap and a jumper wire are needed is the switch-back type of siding shown in fig. 6-b. The upper track here is only a pair of sidings and so does not require separate control. Where crossovers nest together as in 6-c, pairs of gaps are needed in rails between switches of each crossover, with wiring and feeders as shown.

The scissors or double crossover in fig. 7-a is available commercially with everything set-up. The optional gaps shown hollow will usually be cut in the inner rails with directions

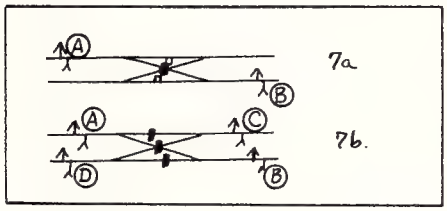


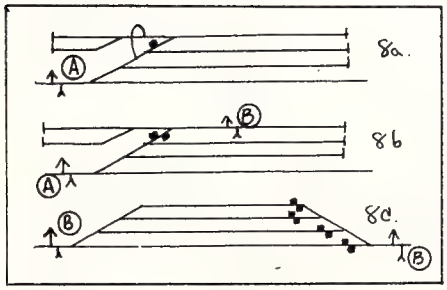
to install jumper wires. The two parallel tracks will be insulated from each other by the numerous gaps inside the crossing and the pair of blocks in the crossing here really indicate all of them. However, all four switches must be turned at once. It is far better to cut extra gaps in the outer rails as in 7-b, using a razor saw or a cut-off disc in a motor tool. You will then need four sets of feeders to be sure, but you will have greater flexibility of train operation. You could hold a train at D and C, while another train crossed over from A to B.

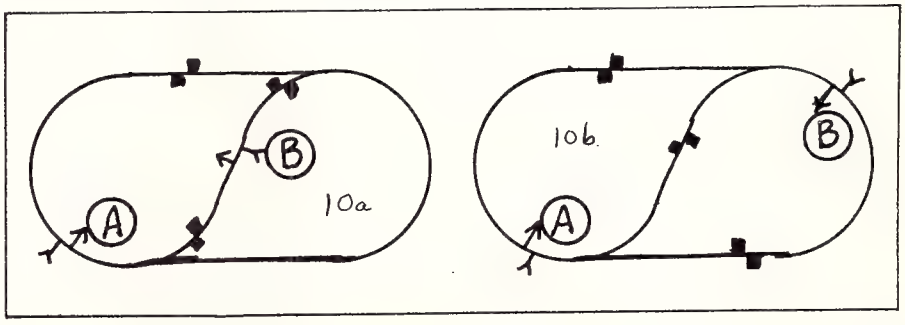
The single ended yard with all switches pointing toward the feeder, as in 8-a, is a cinch, although here I have appended a trailing point switch to fill up the otherwise unused area next to the ladder track. Note single gap and feeder for that. (This switch could be omitted of course). Each yard track will be dead until the switches are lined up for a clear path from the feeder to the track desired. Great for storing engines or cars. Again, not true with Snap-Track.

The same situation might be handled as in 8-b with the farthest track and the two little sidings on a separate feeder. 8-c is a double ended yard, with feeders to switching leads at both ends. There must then be gaps in both rails of each body track of the yard, farthest from the end where the most switching will be done, although with common use of fully insulated trucks, a central location might be more to the point.

The common bugaboos of two-rail layouts are reverse loops and wyes







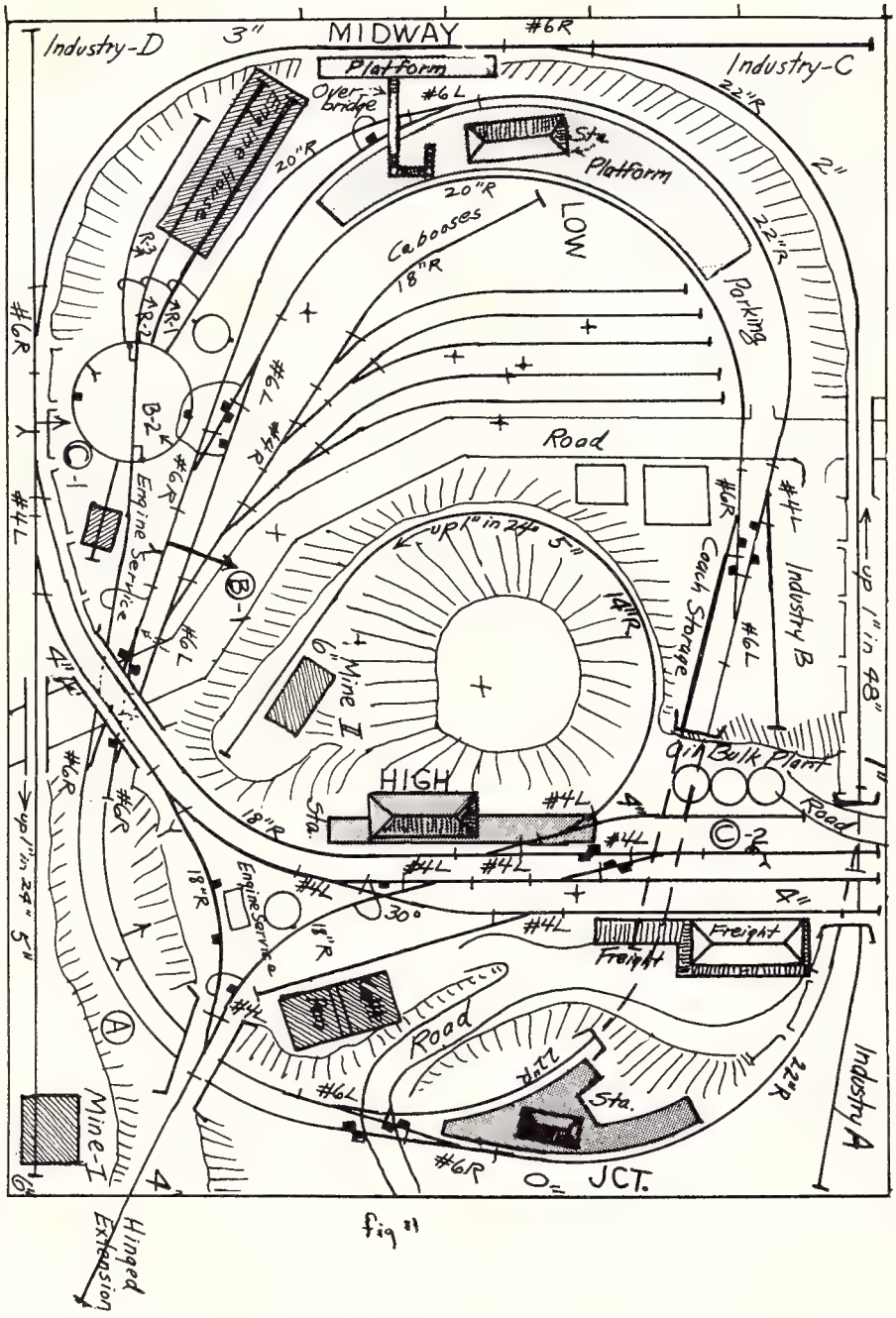


fig 11

(and sometimes turntables), anything which will get a train reversed. Fig. 9-a shows a reverse loop, with the loop itself a separate section, fed by B, isolated by pairs of gaps at each end of the loop. This is so that while a train is ON the loop, the switch may be turned and the polarity of the main track, section A, reversed to receive the train smoothly. Fig. 9-b is a wye. The "tail" of the wye is usually a separate section, fed by another feeder set (B) but sometimes it will be best for operational purposes to have all three stems of the wye on separate feeders, with all three "legs" broken by gaps in both rails.

A reverse loop or a wye usually sneaks into a beginner's layout plan insidiously, perhaps as in fig. 10-a (which is not recommended for a layout). Here the diagonal cut-off forms a reverse loop and so must be isolated and fed by B, main track by A. Fig. 10-b shows another way of 2-railing this same "layout."

Let's get down to a concrete example, the High & Low R.R. shown in fig. 11. In HO gauge, this would be a six by eight foot pike which could be made on twin 4 x 6 panels. It is meant for a location where it will be accessible all around, though possibly the left end could be against a wall. Where back would be against a wall, the center would have to be left open, doing away with the branch to Mine II. In TT gauge, multiply all measurements except switch Nos. by ¾; for S gauge, multiply by ½: and for O gauge, multiply by 2.

The High & Low is on the face of it a shortline connecting the stations at Low, Junction, Midway, and High. Real point to point operation with plenty of switching to do at both ends, and switches accessible from the edge. However the track past Low runs into a tunnel, and a branch from Junction runs into a tunnel, and these two lines join, forming an oval for continuous running when you want to do that. Of course the short tunnel can also be used as an interchange track, rather two of them, so that point-to-point running trains can have a source for "new" cars and a destination for "old" ones.

This continuous running oval is an important part of the railroad since it also serves as a switching lead for the yards. Accordingly it is done as a single 2-rail block or section, working off one feeder set, A. This feeder is located not only for convenience but at the facing end of as many switches as possible, only one jumper wire being needed for this block. The oval is split (as per fig. 3-b, c) by gaps in both rails between switches back by Industry B. Fig. 12-a shows how it would look if opened out flat. By turning the No. 6L switch at the Junction the tunnel track can be made alive or dead. For this reason I would NOT control both switches of this crossover by the same buttons, since here is one location you might NOT want to turn both at the same time—to "kill" a train and hold it in the tunnel. Other crossovers at front of layout I would control each pair of switches from one set of buttons or levers as explained in Switch Machine Wiring.

The second track is section B, running from Industry B around past the front of Low station almost to Junction. By utilizing the turntable and the two turntable leads the engine can run around a passenger train which has pulled into the station, all without interference with freight yard operation or continuous oval running. The main feeder is called section B-1. But wired in parallel to the same controllers is section B-2 which is the two halves (separated by gaps) of the circular rail of the turntable. If each rail ON the turntable then collects from the wheels at one end, as drawn, the polarity of the turntable will be determined by its own position. One rail of each of the enginehouse tracks is connected with its neighbor and finally with the turntable lead. The other rails of these "roundhouse" tracks, R-1, R-2, R-3 run through push-buttons to the arrow-heads of B-2 so that any track may be energized at will. (With some makes of turntables this wiring system will be replaced by the one prescribed by the manufacturer). A 10" turntable is drawn, but it could easily be a 12"-er.

From Junction on up the hill past Midway to High is section C, laid

out flat in fig. 12-c. The main part of this is C-1; tail of the engine escape track is called C-2, and is wired right in parallel with C-1 although a pushbutton is handy to keep it dead most of the time. The wye at High does not follow the wiring of fig. 9-b because it is used for turning engines only. Normally an engine having pulled up on the escape track, backs across the No. 4 crossover (switches aligned to power the next track, of course), and then into the top leg of the wye past the cattle pen. It runs out onto the hinged extension, then onto the bottom leg of the wye. It will stop at about the site of the gaps in the rails, which are staggered here to the right so that most engines will slip across them when they stall. THEN the wye switch between bottom and left legs of wye is thrown for the bottom leg, and the engine proceeds out on the bridge and wherever else it wants to go. This engine-turning wye is only useful for that purpose because the "train" MUST stop while the switch is turned.

The crossing at the top leg of the wye is a 30° one, although 28° would be better. Atlas crossings are completely insulated and have integral wiring, while Tru-Scale crossings require a little wiring (directions furnished with each) but have the advantage of no dead spots. Since these are so widely sold and used, I am not covering the wiring of crossings in this article. Nor am I touching on slip-switches since the few that are sold are also integrally wired.

I have marked on this plan the switch frog Nos. and the directions (R or L) of each switch. The y means wye switch, which has angle of a No. 6 to either side of the main line. Grades on the line are 1" rise in 48", except for the mine branches where it is twice as steep. Curve radii are all marked.

Fig 13 shows the complete wiring diagram for the propulsion (train) power on the High & Low layout for independent block control. The pike is so small that cab control would be a doubtful investment. Blocks A and B have been reversed in position for convenience in drawing. Notice that block C-1 and C-2 are wired to the same DPDT, but that C-2, the engine escape track, has a pushbutton in one of its wires to keep the track normally dead. A similar pushbutton is used in the line to B-2, the turntable. There are also pushbuttons (or spring toggle switches) in the lines to the three roundhous tracks where engines will be stored. This wiring hook-up assumes that you will use a single power supply and build your own control panel.

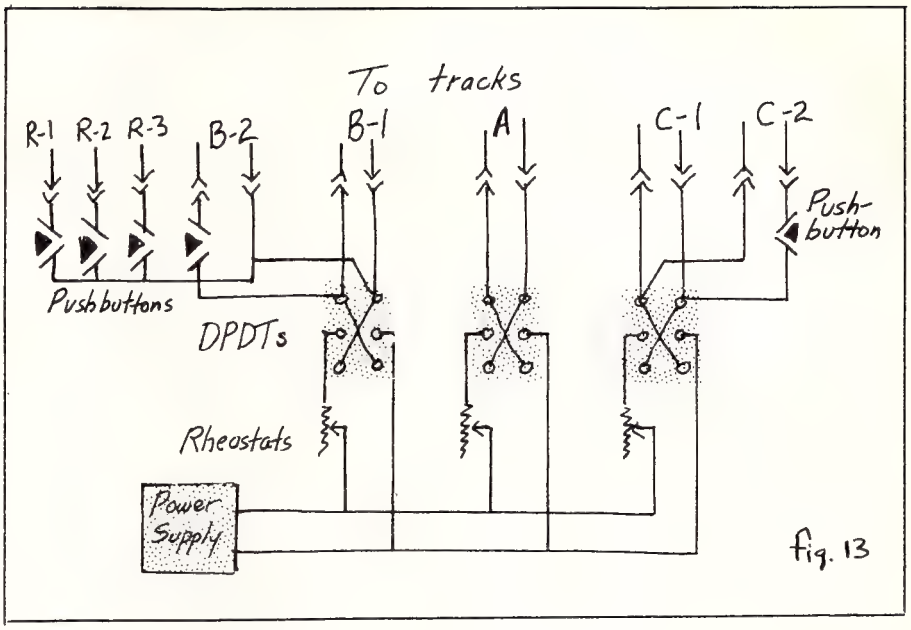


fig. 13

Separate power supplies for each block are popular, each with its built in rheostat and reverse switch. If you do this, follow the idea of fig. 14 and be sure to run a wire between terminals of the power packs (drawn heavy) which are connected to the inner rail (or outer rail if you please). This will prevent trains from stalling when passing from control of one power pack to the other.

Back to Snap-Track again. This used an insulated switch frog and hence does not follow the Dechert system which I have been explaining. The big advantage is that you do not need gaps with Snap-Track except (a) between blocks under separate control, as double tracks; (b) to isolate reverse loops or wyes; and (c) to isolate one rail for push-button energizing as on a siding. The one disadvantage of Snap-Track for somebody used to the Dechert system is that a closed switch does not kill the track behind it, and you must use a push-button as in (c) above. This turns out to be a positive advantage, however, since you don't have to worry about putting gaps *in* a single block.

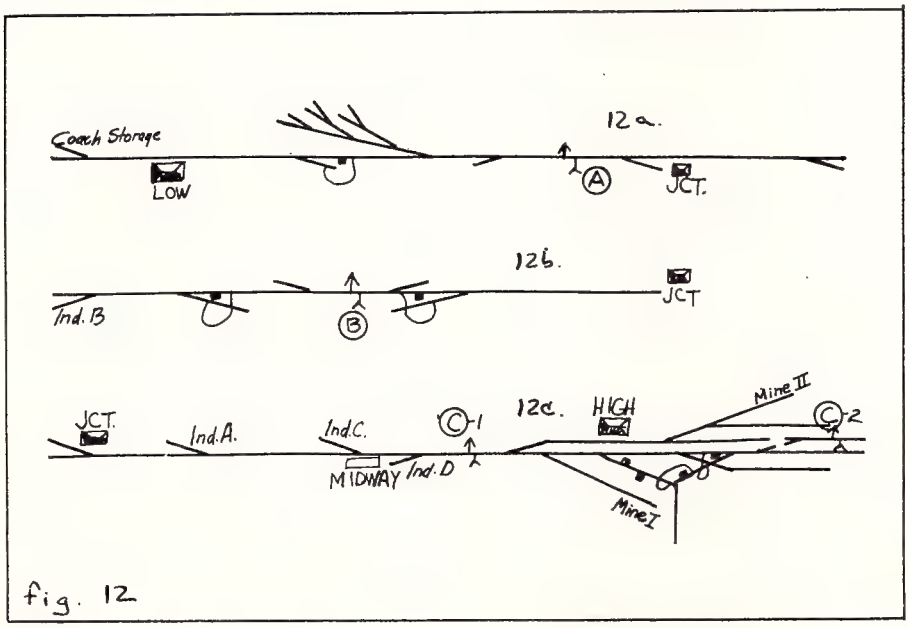


fig. 12

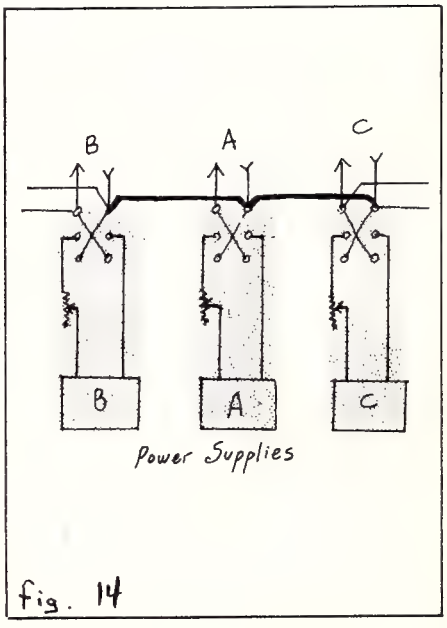


fig. 14

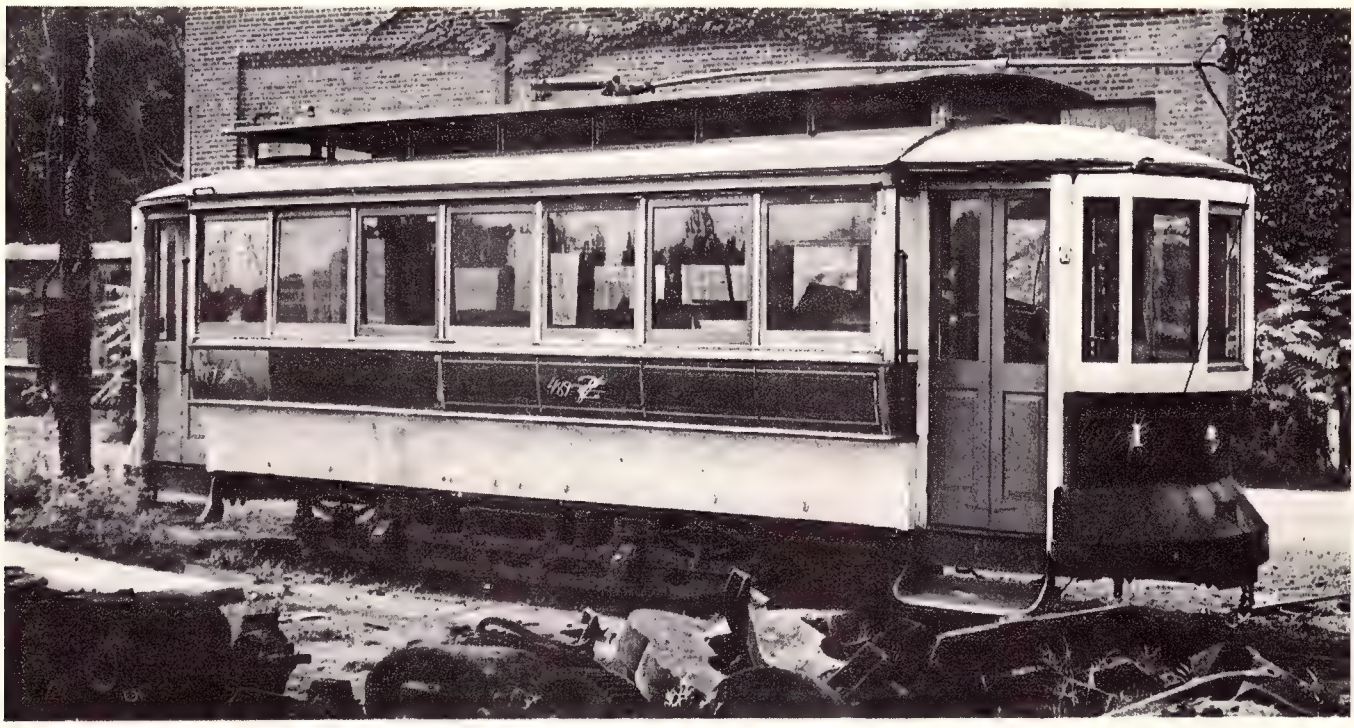


Photo by Hal Carstens, 1947.

Single Truck Deck Roof Trolley

Out of the carbarn rolls another interesting oldtimer

As hundreds of street car lines were constructed around the turn of the century, the big car builders evolved different designs to suit the requirements of the traction companies. In addition to the popular double truck semi-convertible deck roof car presented in these pages last month, the Brill people also developed a companion car with very similar lines but smaller and mounted on a single four-wheeled truck. This single trucker was narrower than the double truck car and somewhat lower in overall height. It measured only 31'9" in length.

This car found its greatest use on lightly travelled routes, as well as on routes having clearances which larger cars could not negotiate. As with the double trucked car, this model was used on lines throughout the United States and ultimately throughout many parts of the world. The design is one which makes it ideal for modeling. The single truck permits the use of very sharp curves; as little as two inch radius in HO gauge and four inches in O gauge, permitting good dependable operation. Since four wheel motor trucks are also available in TT, OO, and S gauges, it would be possible to build an accurate replica in any of the popular gauges without having to use special power tools or going to undue expense in the matter of a custom built power truck.

In constructing a model of this car, the HO gaugers have the best of the situation since Mantua and Tyco offer the car in either kit or ready to run form. Several suitable power trucks are available, in addition to the Mantua truck, from Lindsay, Walthers, and others. Note that the wheels are 33" in diameter which precludes the use of a motor truck having 40" diesel locomotive drivers. Any of several truck side frames can be used.

In O gauge, several builders have cut down the Pittman double truck Brill car, substituting a single power truck for the regular trucks. The Pittman car differs mostly in having rectangular widows rather than windows having the slight arch shown in the plan. Several O gauge manufacturers offer the correct wheel spaced power truck: Pittman, Wagner, as well as several others.

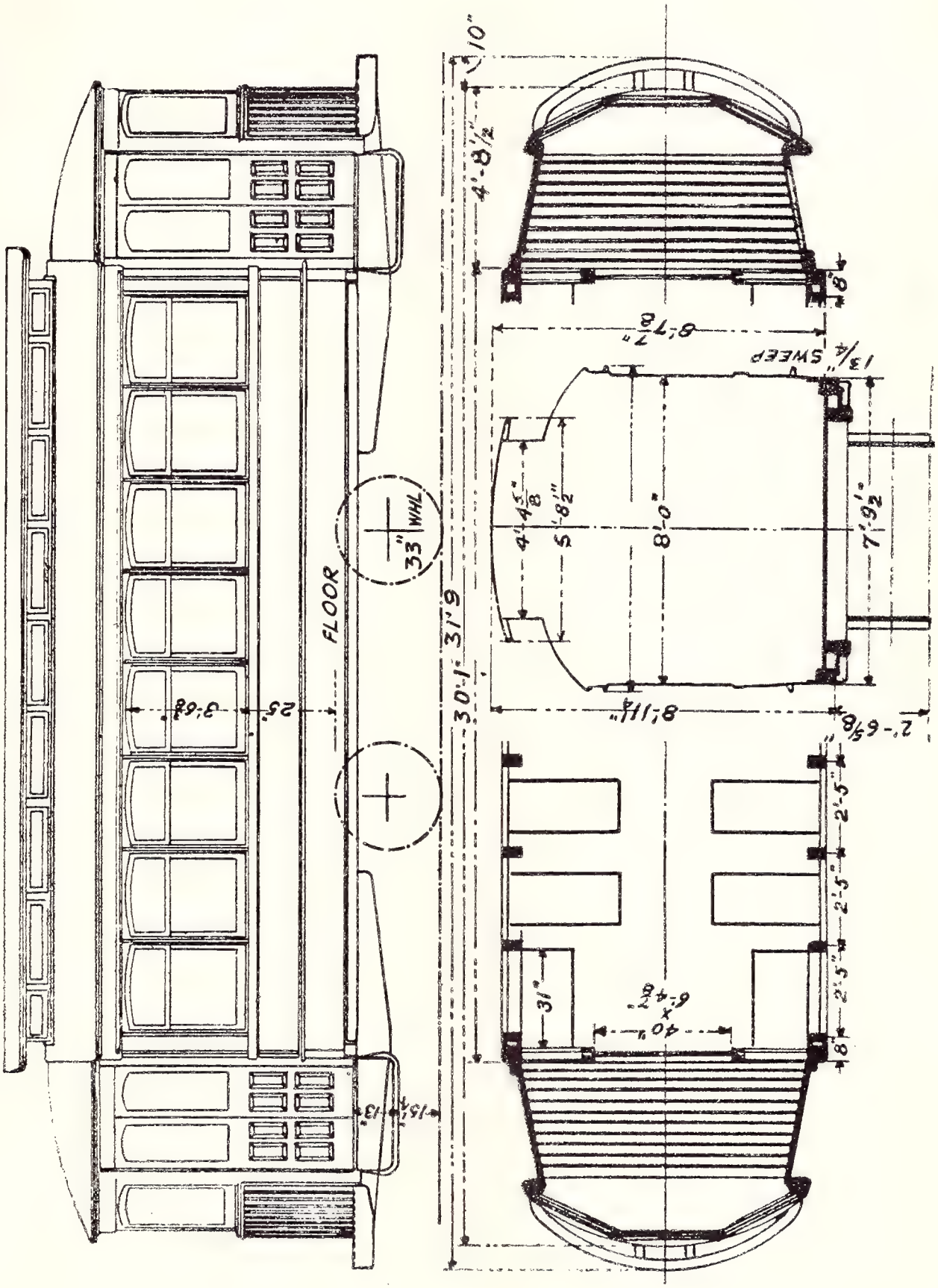
Cutting down the Pittman body is largely a matter of removing several windows, using a sharp razor saw. These windows can later be used to lengthen another Pittman body to create a larger interurban type body, such as a Public Service (N. J.) 3600 series car. Use of an underfloor truck in O gauge will also permit installing full interior detail with either regular or longitudinal (against the wall) seats.

As with the double truck car, there were many differences in the detail to be found on the different systems. Some cars had double sheathed sides which can be modeled with scribed wood. Somewhat simpler was the plain paneled sides shown in the plan. Again, these cars were both single and double ended, with many double ended cars having only a single pole.

Destination signs differed greatly. Similar cars in New York City used four sided signs, each side of which gave a different route. Others used removable route signs mounted in front and rear under the deck of the roof, and also centered under the deck on the sides. There were also the standard roller signs printed on cloth, mounted inside the car and visible through a glass window. Metal destination signs, removable and fixed were also popular, being mounted on the roof or on the dash. These signs often had only a number or letter to designate the route.

Trolley modeling owes much of its popularity to the colors used on these old time cars. Chrome yellow and orange, crimson, cream, and green were but a few of the common colors. Not infrequently, a traction company would even use colors to designate a route. Red cars would be used on a crosstown line and yellow cars on the route down to the Depot.

The dinkies lasted a long time and were found in service right up until 1940. Even today, it is possible to find one or two stuck away in some dark corner of a carbarn and several have been preserved for posterity. in


FLOOR
33" WHL
31'9
30'-1"
4'-8½"
8'-7⅞"
13/4" SWEEP
4'-4⅝"
5'-8½"
8'-0"
7'-9½"
8'-11¼"
2'-6⅝"
2'-5"
2'-5"
2'-5"
31"
40"
6'-4⅞"
25'
3'-6⅜"

STANDARD STEEL BOX CAR

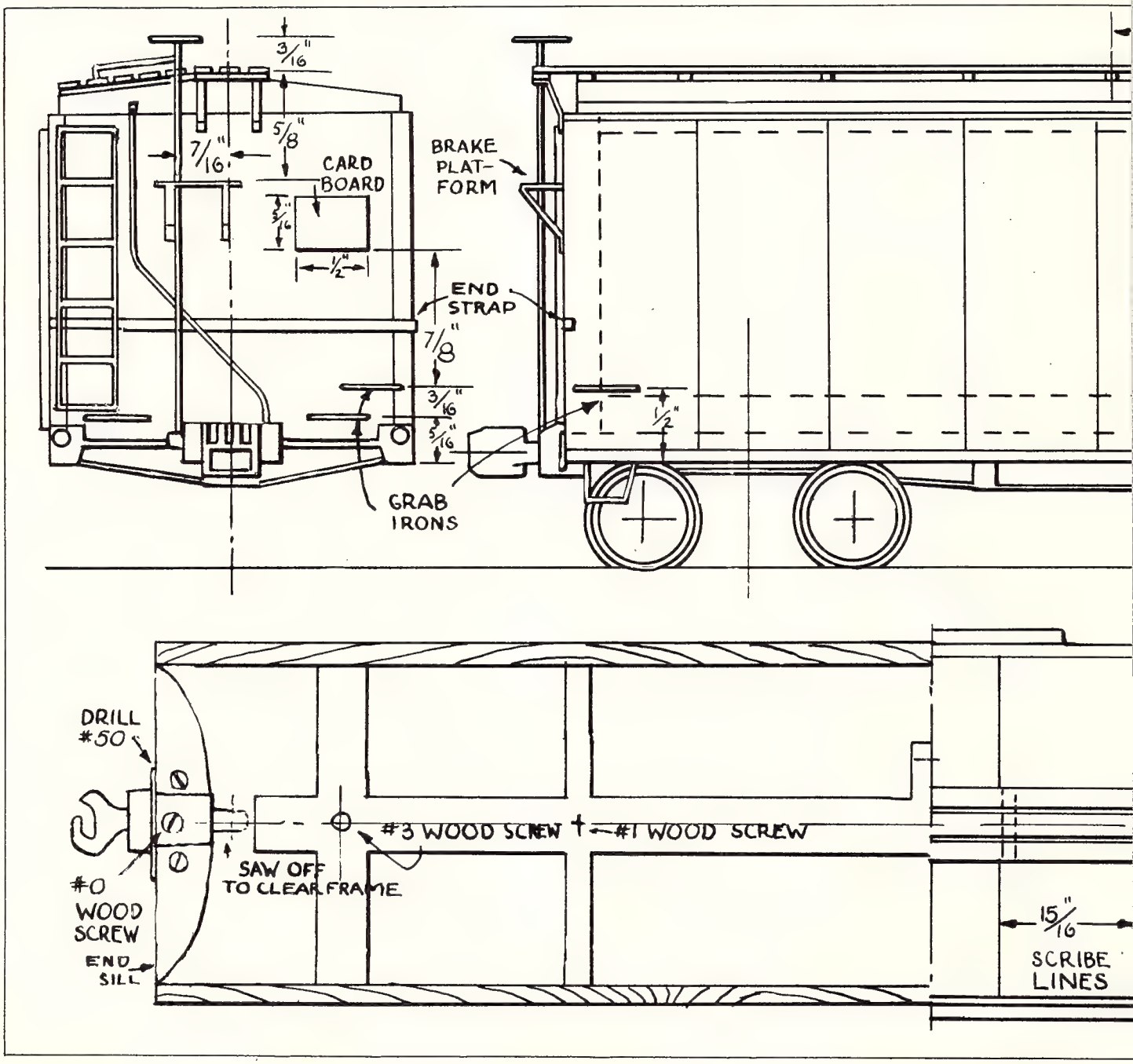
OF all the many types of cars used by our railroads, the box car is by far the most widely used. It has been the subject of poetry and song, fiction and the motion picture.

The box car has had a long history and while the designs found on the railroad today are pretty much standardized, many variations can still be found. One such standardized design is shown in the O gauge drawing below which is typical of the 1930 period. Cars such as this are still common on railroads everywhere and it would be pretty safe to letter this car for most of the big Class 1 railroads. Nevertheless, it would still be best to dig out the Kodak and get some photos of the actual car before starting to model it since time may have wrought many changes. Different car manufacturers use varying designs of corrugated or other type metal doors and ends. Trucks may be Bettendorf, Andrews, or any of several other designs. Grab irons may be used in place of ladders, along with a more modern Ajax brake wheel. Your camera can bring back photos showing just what these detail variations are. And best of all, photos of the car show authentic prototype lettering, which will have to be added later with decals. You'll find one of these cars in almost any freight train.

Building the Car

The car is an easy one to build and the same construction procedures apply regardless of gauge. If you work in a gauge other than O, have the plans photostated to the correct size. It will make the job much easier than trying to transpose each dimension with a scale rule, or mathematically.

If you have a circular saw, you can cut your own wood parts. Since few of us can boast of such luxuries, we can get suitable wood precut as to width and thickness at our hobby shop. All that we'll have to do is cut it down to the proper lengths. We'll need wood for the floor and ends, a



You'll find these cars with dozens of variations in service on railroads throughout the United States and Canada.

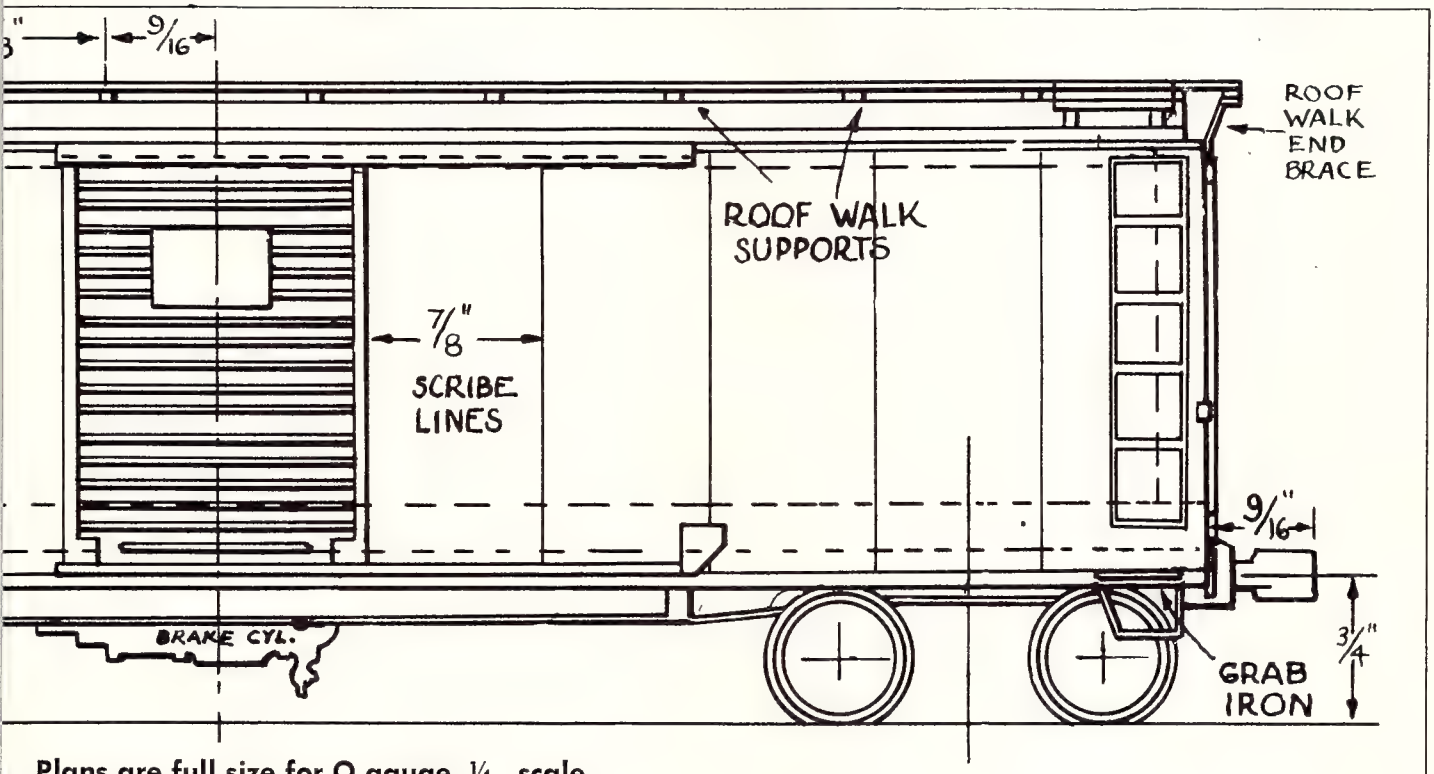
piece of roof section, and some plain wood for the sides. And while you're at the hobby shop, also pick up the necessary hardware to complete the job: trucks, steps, grab irons or ladders, brake system, corrugated doors and runners, brake platform and end braces, end sills, and couplers. The roof walk can be made up from wood strips or can be purchased. Cast metal underframes can also be purchased for most gauges and will add weight where it is needed. An underframe can also be built up of wood.

Construction is started by cutting the floor and roof sections to the proper lengths, along with two end pieces. A razor saw makes the best cut, giving a smooth finish which requires little if any finishing.

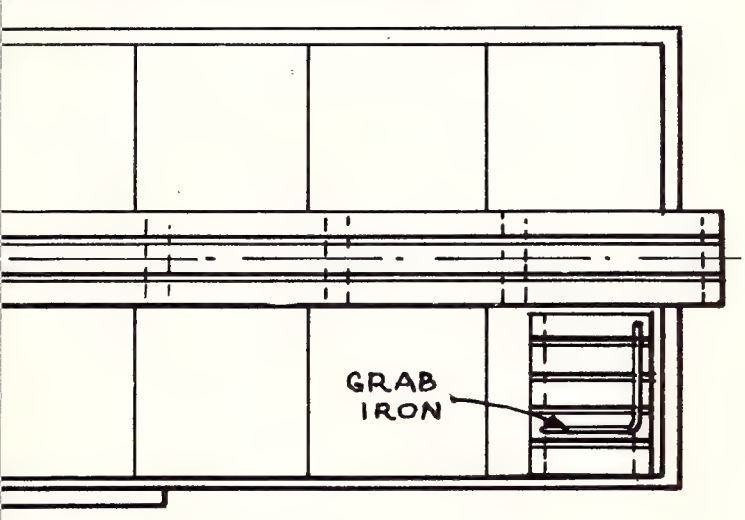
The plans show scribe marks on both the sides and roofs. These scribe marks represent the metal plates used in making the sides and ends. The rivet detail also present is usually omitted in scratch built models since oversized rivets look terrible and scale rivets are almost impossible for the average builder to duplicate. Better to eliminate them entirely. They won't be missed.

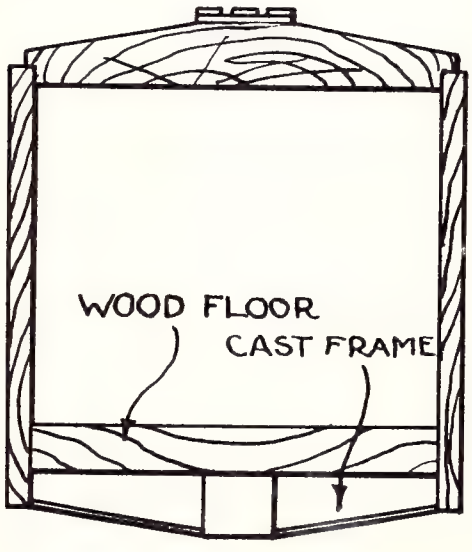
The sides are also cut of wood and are cemented in place. Next comes the task of adding the many small fittings. In HO they are usually cemented in place, with grab irons and ladders being forced in position. O gaugers prefer to use ladders and parts which require that they be attached with tiny pins. Unfortunately, it is impossible today to obtain correctly scaled grab irons having these holes. Runners, ladders, underbody detail, etc., should also be put in postion. In O gauge, almost everybody will use the standard dummy AAR coupler. The wooden floor makes it easy for HOers to choose any coupler and mount it without difficulty. Trucks are added last, and may require shiming up with washers if couplers are too low.

Paint tuscan or boxcar red.



Plans are full size for O gauge, ¼ scale





DUAL GAUGE

by Richard Andrews

By putting in dual gauged track you'll be able to run both standard and narrow gauge trains over the same trackage and even run both in the same train!

WITH summer time practically at hand, a lot of you fellows will be making tracks for Colorado and other vacation spots. So far as we know, the narrow gauge train from Durango to Silverton will again be running—and you will certainly find plenty of atmosphere and narrow gauge lore (not to mention historic locos and cars) at the Narrow Gauge Motel at Alamosa, Colo. Bob Richardson, one of the proprietors of this unique spot, can give you up-to-the-minute dope on where to hit the DRGW system for steam action. And at Alamosa, you will find both narrow and standard gauge trains running on the same roadbed—dual gauged.

What is dual gauge? It is simply regular standard gauge track, to which another rail has been added to accommodate one side of the narrow gauge. Both gauges use one rail in common. The value of this on a model railroad is obvious where space is a little tight. It extends the run of the narrow gauge and the standard gauge by a sort of "overlap." Thus the D&RG narrow gauge comes east over Cumbres Pass from Durango, hits Antonito, and runs on up to Alamosa. But the Rio Grande standard gauge comes down to Alamosa from Denver, and runs on to Antonito. Between Antonito and Alamosa, the line is dual gauge, as well as the yards at those two points. And you'll find that the road often uses rolling stock of both gauges in the same train! Idler cars are used, with two sets of couplers, to couple a string of narrow gauge cars to the standard gauge cars—and the locos used may be either narrow or standard gauge!

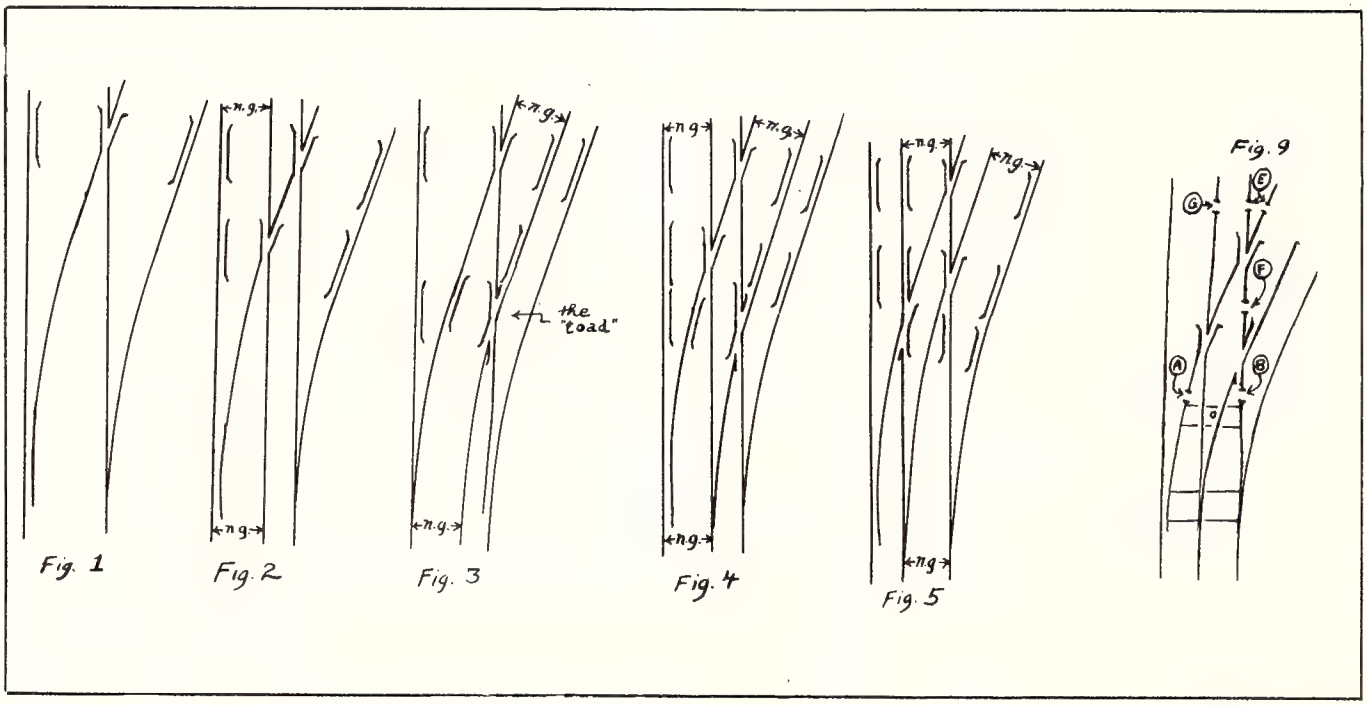
One of our readers—J. M. C. Cowie of Gwelo, S. Rhodesia, asks a very much-to-the-point question on dual gauge. "In a dual gauge switch, is the rail/track used by the narrow gauge, a length of standard gauge rail as regards size and height? Or is it narrow gauge rail "shimmed" up to the height of the standard gauge rail? This has me guessing as my standard gauge rail is higher than the N. G. ditto, and I wish to be near prototype as possible!"

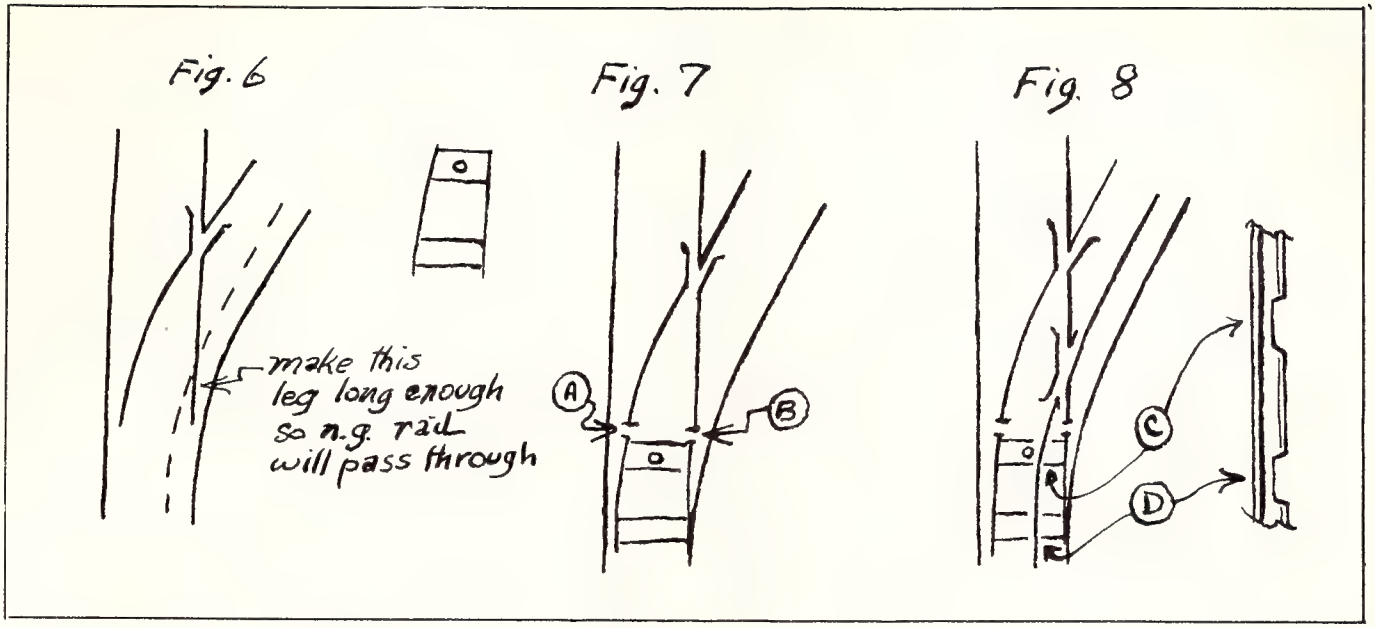
Years back, the DRGW did use a lighter, and thus lower rail for the narrow gauge in dual gauge track—as well as on the narrow gauge track. Thus the slim gauge rolling stock ran at a slight tilt, and this wore bearings on the low side. Shimming up the low rail proved difficult to maintain; hence the use of a rail for the narrow gauge in dual track—as heavy and thus the same height as the standard gauge rails. This provides prototype for doing it either way. But no matter what you do—whether you are using very high and heavy rail for the standard gauge and thus a similar rail for the narrow gauge in dual track—that extra rail remains a narrow gauge rail.

Dual Gauge Switches

Dual gauge switches LOOK complicated—but once you get going on them, you can line them out in short order. They are simply standard gauge switches with narrow gauge rails added. The extra rails make extra frogs as they intersect—giving these switches their complicated look. But the elements are simple.

Take a standard gauge switch (Fig. No. 1), and run an extra or narrow gauge rail straight through, with the common rail on the "tangent" (or straight) side, (Fig. No. 2). That has added a second frog like the first one. If adding this to a commercial switch, you could simply cut a notch through the curving standard rail head to let the n.g. wheel flanges through, and bring the n.g. rail up to it on both sides, and solder. But a switch frog is not hard to





make. Note that this had added two guard rails. Fig No. 3 shows a standard switch to which narrow gauge has been added for the turnout only. The narrow gauge is still on the left hand side. Here the narrow gauge makes a crossing frog as it cuts through a standard gauge rail. Three guard rails are added—one opposite the main frog for the narrow gauge —and one each for narrow and standard gauges to protect for the crossing frog.

Al Hazen, NMRA's Track & Turnout man, suggests the name "toad" for this frog in dual gauge switches, as it is not quite the same in form as the regular type. Fig. No. 4 shows a fully dual gauged switch which simply combines the elements of Figs. Nos. 2 and 3. And Fig. No. 5 shows a fully dual gauged switch which is simply a right hand standard turnout which has the narrow gauges on the right hand side. Note that additional frogs and "toads" occur as the narrow gauge rails cut through the standard gauge rails.

Got the hang of it? Now why not sketch a fully dual-gauged 3-way stub just to try yourself out on the thing!

Bob Stull of Englewood, Colo., has worked out a clever way for feeding juice to an HO/HOn3 switch through the points. He starts with a regular HO turnout (Fig. No. 6), and makes up a point assembly for it (Fig. No. 7) which will pivot as noted, and will NOT contact the closure rails of which the points are continuations. Gaps "A" and "B" will be maintained electrically. The next step is to add the n.g. rail for the turnout (Fig. No. 8) and cut the base of this rail away at "C" and "D" so that this rail does not contact the point assembly. Now add the straight-through n.g. rail (Fig. No. 9) which winds up as a point. Solder this point to the point assembly with the switch over tight to the side. Add gaps "F" and "G" as well as the normal gaps at "E"—and you've got it. The narrow gauge rail running through the turnout side is constant polarity at all times with the standard rail on that side—and the juice feeds in to the various internal parts of the switch very nicely as it is thrown one way or the other. It's fun to trace it through and see what happens.

This dual gauge stuff is intriguing —but remains simple in basis if we remember that it is simply standard gauge—with a narrow gauge rail added. If you are an O gauger and use No. 172 O gauge rail for your dual track, including the extra rail— it's still a narrow gauge rail. This is important to remember as the On3 flangeway is narrower than the O flangeway.

But all that means is this:—you use O gauge flangeways of 5/64" along the two standard gauge rails— and an On3 flangeway of 3/64" along the narrow gauge rail. There is one further gimmick to the thing—this deal puts all the guard rails along the COMMON running rail—out 1/32" too far for the Nn3. But—those guard rails are there just to keep wheels from catching on frog points —and so we simply add 1/32" to the distance between the On3 and the common running rails as required. Thus—past the secondary frog and the toad—increase the gauge of your On3 from ¾" to 25/32". This approach has been used for many years in On3 dual gauged with O gauge. And like all the rest of this, it sounds much more complicated than it is. I've found that these turnouts can be made up in jig time. Standard gauge rails—with a narrow gauge rail added.

Take a flat car, add an extra set of couplers at each end for the narrow gauge (set over the centerline of the narrow gauge track and at a scale 26" for 3 ft. gauge and 16" for 2 ft. gauge)—and you can switch the field as they have done it on the D&RG at Salida for years—a standard gauge loco handling narrow gauge cars or vice versa!

Mr. Cowie writes that he was much taken with Ronnie Schilp's HOn3 0-4-4-0T Mallet, which Ronnie made from two Kemtron 0-4-0T mechanisms, one powered and one on ahead for show and negative polarity pick-up. The same approach could be used in any gauge, using 0-4-0 mechanisms. The HO Mantua "Booster" could supply the needed items for an Sn3 Mallet of this type, the narrow gauging being done as decribed in our April issue for the Bantam "Rooster." South Africa has many Beyer Garratt's of considerable size running on their standard gauge of 42", and narrow gauge of 24" as well. The Beyer-Peacock firm has built 0-4-4-0T versions of this type. Why not write them, Mr. Cowie, and ask for plans and pix of their first "BG"—which was a small eightwheel job?

Ever want to be general superintendant and chief throttle jerker of a narrow gauge road? Many have, but few were chosen. Ed Mead is one fellow who managed this years back —for one summer—on the old 2 ft. gauge Bridgton & Harrison Ry. in Maine. Now he's at it again—but this time the fun is shared all around— on the Pine Creek RR which you'll find four miles north of Freehold, N. J., on Route 9. Ed writes:—"The road is in active operation over its 3 ft. gauge main line—and also has an engine house and passenger station as well as a yard. There is a tiny Baldwin 0-4-0 with tender, and a 3-cylinder Shay off a mountain logging road, and five cars. We need helpers in all kinds of (free) jobs to maintain and extend the road and its equipment—and to spread the good word!" Good news for eastern fans— a going narrow gauge pike right in our own front yard!

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Double Gauge Turnout

MARCH
SP Gerber engine house (O)
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Retaining Walls

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NC&StL K-2 Pacific (O)

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Double slip switch in HO
4-4-0 from C P Huntington (O)

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FEBRUARY
Protostory: Bronx Frt. Terml.
Bumping posts (O)
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TARS semi-conv. ST No. 1701
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MARCH
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RMC Layout No. 1: Design
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NKP Also and BLW diesels (HO)
Painting the scenery: Dance
SOU & EREX Hopper car plans (S)

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Trolley Express Car: Long Valley (O)
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GN EMD pass. diesel (S)
Virginia & Truckee 4-6-0 No. 26 (HO)

MAY
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JUNE
Outdoor RRing: Long Valley O line
LATL Rail grinder (S)
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CofG 2-8-0 No. 200-214 (O Plans)
CNJ first diesel—Part 2

JULY
USRA light 4-6-2 (HO)—Part 1
CNJ Newark Terminal: Crater
EG atlantic in HE (1/16) Gauge
Economy motor truck: Long Valley
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MKT Caboose (HO)—Austin

AUGUST
CNJ 4-8-0 camelback (O)
Modeling waterways: Dance
Grand Valley RR (HO)
C of G 0-6-0 tank engine (S)
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SEPTEMBER
Truss bridge: Dance
Building grades: Schopp
NCNGRR tank car (HOn3)
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OCTOBER
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Getting started: Barkeley

MARCH
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O reefer by Lewis Austin
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MAY
Here comes the circus
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Canada Great Western Ry (O)
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JUNE
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JULY
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SP Box car; PFE Reefer (HO)
4-4-4 Live steamer—Part 8

SEPTEMBER
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CNJ 0-6-0 camelback (O)—Crater
Disappearing apartment railroad

OCTOBER
B&M gondola in O gauge—Austin
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NOVEMBER
Electronic control: J. Nixon
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DECEMBER
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Soldering made Easy—Austin

MARCH
Trolley street sprinkler (O)
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Gas Electric (HO)—Carstens
NYNH&H 0360 electric loco (S)
NYNH&H caboose (S)

APRIL
GE 0-4-4-0 Elec. Loco (O)—Austin
Long Island Model Railroad (O)
Getting Started, John Barkeley
Fuel Dealers Yard—Crater
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Wayside Station (O)—Schopp

MAY
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B & O O gauge layout
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OCTOBER
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Bellows Falls, Vermont (Protostory)
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G&D 2 stall engine house—John Allen
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NOVEMBER
G&D Engine house (HO)—Part 2
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Turntable for HO—Bill Schopp
Electric Trolley Locomotive (O)
TT water tower—Healion

DECEMBER
4 comp. Pullman Observation (O)
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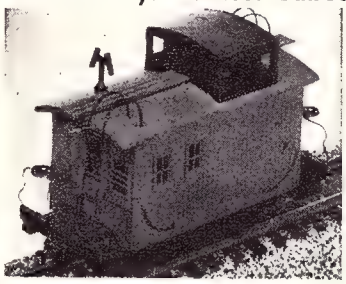

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TEST TRACK REVIEWS

Manufacturers are invited to submit new and revised products to the Test Track, Railroad Model Craftsman, Ramsey, N. . for testing and review.

HO GP-9 Diesel Locomotive

The Electro Motive GP-9 is now offered in HO gauge by International in both kit and built up form. Except for the cast zamac pilots, the body of the locomotive is built up entirely of stamped brass and turned brass parts. The body has been factory assembled with all soldering having been factory completed. Airhorns, grab irons, grills and blowers are all in place.

The power and trailing trucks are of cast zamac construction. All eight wheels are powered, a flexible drive shaft connecting the two trucks. Side frames contain intricate detail. Three gears transit power from the 5 pole permag motor to the power truck drive shaft; two being fibre and the center one brass. Four worms transmit power to the four axles. Drivers are of a silver metal, possibly nickel silver; a metal common to drivers of many Japanese imports.

Headlights on both ends of the unit light up, as do the number boards. Headlights imitate the twin sealed beam units now in general use.

This is an extremely versatile type of locomotive and can be used for switching, passenger, or freight service. They can be operated single or in multiple unit, and are often seen working with standard streamlined cab units. The imported model checks out very closely with official G. M. blueprints.

Assembly is relatively simple and can be completed with only a screwdriver. The builder has to assemble the trucks, attach them to the frame, and then add the motor. Japanese auto-couplers are supplied. Little difficulty will be had in substituting any other type, if desired. The model is also available in ready to run, painted form. Imported from Japan by International Models Inc., 33 Union Square W., N. Y. 3, N. Y.

O Gauge F-7 Diesel Locomotive

All-Nation has dressed up their popular F-3 diesel kit with some revamping of the dies and come up with a snappy F-7. Major change is in elimination of the center porthole window and the addition of aluminum grill strips over the older style grillwork.

Large number boards are also included with the kit. The result is that the model now becomes more versatile and can be finished off in any of several ways, to suit any desired prototype.

The kit consists of detailed zamac castings, plus a number of stamped and formed brass parts. The body castings consist of two half shells, plus an end and roof casting. The motor is mounted on rubber grommets set into a steel chassis. A flexible shaft transmits power to the rear truck only. There is insufficient room to also power the front truck, although there is room to install a specially designed All-Nation working Mars headlight.

The motor is a special 7 hole Pittman unit designed expressly for All-Nation. A cast weight fits over the rear truck for better traction.

Assembly requires no special tools. There is no soldering except for fastening lead wires. Castings have very little flash. The length of the unit makes it especially suitable for home layouts having sharp radii. Insulated for two rail, the engine can readily be equipped with third rail shoes. There is also a companion B unit.

We ran into an interesting sidelight in painting the model. We had brush painted half of the unit with a grey primer and then decided to spray the entire engine black. In a few minutes the job was done. The next morning, the unprimed paint was blistering and peeling while the primed paint was securely anchored and glistening. Heed the lesson. Manufactured by All-Nation Hobby Shop, 184 North LaSalle St., Chicago 1, Illinois.

Most Popular Locomotive

When this month's cover photo was chosen, several RMC staffers got into a hassle as to what was the most popular scale model locomotive of all time. Many models were mentioned: the Lionel 700, Lobaugh's Articulated, Varneys' F-3 and Little Joe, the Mantua Goat, and many others. What is your opinion? What do the readers of RAILROAD MODEL CRAFTSMAN consider to be the all-time best production model locomotive ever built? And since we have a feeling that votes may cross gauge lines, let us know what gauge you're in, too.

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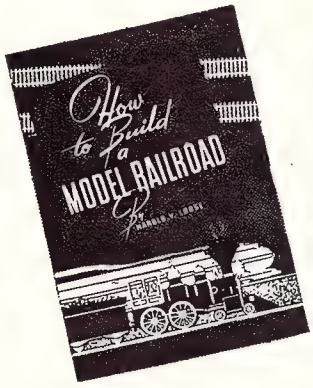

This third Edition of HOW TO BUILD A MODEL RAILROAD has been completely revised and is right up to present day standards. It has many new plans and illustrations (more than 75 are included), "How To Build" will answer all the questions asked by the man who is starting a miniature railroad layout as well as the problems encountered when a model railroad has gotten underway.

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TROUBLE SHOOTING

A.C. or D.C. Operation

▶ Can I run my American Flyer trains on A.C. or on D.C.?—Jackie Fanfer, Cleveland, O.

ANSWER: It depends whether you are talking about S gauge or HO gauge. Any motor that is meant for running on alternating current (A.C.) so far as trains go, may be run on D.C. American made A.C. trains use a "sequence reverse" which changes direction each time you turn the current on, which is the easiest way to tell them. American Flyer S gauge trains with A.C. (or rather universal) motors will also run on D.C., but the reverse will work just the same way unless you (a) wire in a rectifier or (b) change the field of the motor to a permanent magnet which is possible.

Gilbert and other HO trains, however, are meant to run on D.C. only because they reverse by your changing the direction of the current by means of a reverse switch on your panel. If you feed them A.C. instead, the magnets will be spoiled and they will not run at all thereafter.

(Lionel trains, meant for A.C. operation all the way, will run on D.C. but the whistle will sound continuously since the whistles are actuated by a shot of D.C. which the Whistle Button sends into the rails.)

Grinds and Bumps

▶ The writer has two different makes of road switchers (diesel) with eight wheel drive, Hobbytown and Tenshodo, and both of them run well but sound like coffee grinders while doing so. How can this be eliminated? Secondly, will you list some of the things to look for that might make an HO steam locomotive bump every few inches as it travels at slow speed. Is it the worm and gear?—Ira Chadwick, Cleveland, O.

ANSWER: The noise in both diesels is due principally to the use of so many gears. I believe there are a total 16 gears in the Hobbytown Alco switcher, all metal, for which they should be blessed—but plastic or fibre gears would be less noisy. In the Tenshodo geep (which I presume you speak of) a similar set-up exists, and in addition the noise is amplified by the sheet brass superstructure. If either engine draws more than ½ amp. while running it could be some little bind in the gearing, but if it draws less than that, just keep all gears well lubricated and turn off your hearing aid. Some help might be obtained by packing the superstructures where possible with some noise deadening material such as foam rubber, modelling clay, etc.

As for that bump in steam engines, it is usually due to some snag in the side rods, although the actual sound may come from the worm slipping up over the gear. Remove main rods and valve gear and try again. Maybe crosshead hits end of guide or front crankpin (which can be filed thinner in the head). Maybe one crank-pin screw has started to back out and is hitting the main rod or crosshead. In an old engine, the bearings may be worn letting wheels slop around. If side-rods do not fit well enough to let wheels revolve freely when they are in place, one or more of the holes in the siderods needs lengthening with a rat-tail file. Sometimes motor has not been properly placed (on some Mantua engines) to mesh worm with gear deeply but not too deeply. Again if you haven't tightened the motor mounting screws down well, the motor may have shifted and thrown worm-gear depthing awry. These are the commoner causes, but you may find as I once did a crank-pin screw so long it came through the wheel and sometimes hit the frame.

All questions pertaining to model railroading will be answered thru these pages or direct by mail. To speed this valuable service, send a return envelope with your query.

Soldering

▶ I have been having trouble doing soldering work in connection with model railroading. I have purchased a new 150 watt iron to replace a smaller one, changed fluxes, bought new solder, and still I have trouble making the solder flow. Can you tell me what may be wrong?—E. E. Anderson, Indianapolis, Ind.

ANSWER: An iron of 150 watts should get hot enough to make the solder flow if you heat it up long enough, if it is clean and tinned, and if it has not become oxidized (black). Dip in flux or dab some on before each operation and then touch a bit of solder to the tip. From time to time file off the black oxide and then flux and tin (with solder) again. From your letter I gather you know enough to have the work to be soldered at least clean, and, if possible tinned with solder to make the new solder take better.

Personally we prefer a liquid flux such as Yaegers or Luco which come as a salt and must be dissolved in water, but the paste fluxes also have their adherants. The solder should not be common dime store stuff but should be regular 50-50 (half tin, half lead) solder. The cheaper stuff will not melt well being heavy with lead. If you have to buy this in a bar, melt it up in a little dipper and pour out into corrugated paper "molds."

Some of the finer custom builders make their own solder which is either sixty or seventy-five percent tin, the remainder lead. Pure tin with which to do this is hard to get, but if you ever get any, use it to make solder. We have been privileged to try out some of this solder, which is not for sale by the way, and were simply amazed at how well it flowed.

New Products

▶ Why doesn't Lionel (or some other company) make a You-Name-It?—Many Readers.

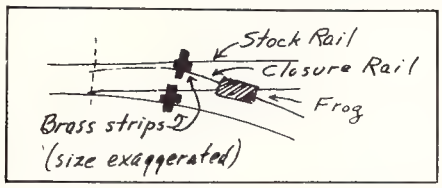
ANSWER: Such questions had better be addressed to the company you refer to since we have no way of reading their minds. Often the answer is that they don't think that the You-Name-It would sell well, based on the company's marketing experience. Or the item might be too expensive to produce, may be tied up with patents,

or may not be practical. And finally, maybe the president of the company would rather make a Who-zis than a You-Name-It. OK?

Ho-Pac Switch Trouble

▶ I built the Ho-Pac Lines (Dec. 1955 RMC), substituting manual for electric control switches and having only one power pack to work the entire railroad temporarily. Now in spite of staggering the gaps according to instructions, I find that engines stall on the crossovers between tracks and do not get going until pushed all the way through to the other track. Can you help me?—Lee Krauss, Kansas City, Mo.

ANSWER: We have since found out that staggering the gaps is not so important if certain other minor changes are made in the wiring. However with only one power pack there should be no trouble at any time provided you have connected the terminal sections inner rail to inner rail and so on.



Far more likely as a cause of trouble is poor contact within the Snap-Switches. If you will look at one closely you will see between stock rail and closure rail on each side a little flat, cross-shaped piece of brass or bronze under and between these two rails. This is supposed to make contact with both and carry the current. However due to handling, shipping, etc. these little pieces sometimes do not make good contact and must be moved slightly with the point of a knife until they do.

I am assuming that you are not using Atlas Custom-Line switches with non-insulated frog, nor any of the very few experimental Snap-Switches with non-insulated frog none of which should have reached the market at all. Either of these or any other make "scale" HO switch would require further location of insulated rail joiners (gaps) and different location of terminal sections.

Extremes of Power

▶ What are largest and smallest pieces of HO motive power ever made available commercially? I say the Bowser articulated is the largest and the Penn-Line jeep diesel the smallest, whereas my friend nominates the Winton articulated and the Precision jeep diesel. Would you care to settle the argument?—Roy Ranni, Pittsburgh, Pa.

ANSWER: We agree that the Winton 2-6-6-6 articulated was the largest, unless you want to count the semi custom built Pacific Fast Mail edition of the same or the Union Pacific Big Boy. That's in steamers. If pulling power were the criterion, we'd like to see a Hobbytown passenger diesel A-A or A-B-A with all twenty-four or thirty-six drivers powered from a single DC-91 motor; these would also take the cake for length, too.

Probably the smallest motive power would be the Kemtron "Teakettle" but if you would permit it, the Kemtron "Rail-Jalopy" would take the cake and eat it too. (Hey, Doc. Didn't Varney make a 2-8-8-4 Yellowstone? Ed.)

Gorre & Daphetid

▶ Can you explain the origin of the name of John Allen's railroad the Gorre & Daphetid?—Two Readers.

ANSWER: All we can make of it is "fory and defeated" and beyond that you'll have to ask John. There was at one time a wide use of cute names for model railroads such as "Hollow Tree" and "Miminutive & Obstinate" and John evidently belongs to the same school. The only thing worse is the family type name such as "Josephville & Kathleen City." O.K., maybe we're just grumpy today.

Knuckled Side Rods

▶ One of my favorite engines, a Varney mikado, has developed the very nasty habit of getting itself tied up in a knot so that it will not move either way unless the wheels are pushed around strongly with the fingers. I know the trouble is in the knuckled side rods and have made several replacements here without success. Can you make any other suggestions?

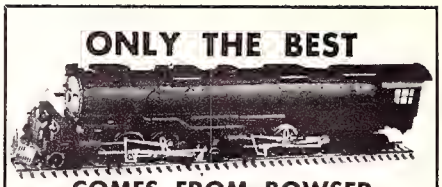
ANSWER: Personally, I have very little patience with knuckled side-rods and if I were you would replace them with one-piece stamped side-rods which are available from Varney for all his locomotives with six or eight drivers, all spacings. You can get numbers and spacings of these from his catalog and if your dealer does not have them he can order for you. On the sprung drivered super-series engines, some of the flexibility of the springing is negated by rigid rods, but not all. One other possibility if yours is an economy series engine is that the axle holes in frame have become worn. They can be bushed with ⅛" i.d. brass tubing, but less trouble is a new frame which is also listed and *can* be obtained. Occasionally bad rods and bad bearings result in worn D shaped holes in demountable drivers and some of them may have to be replaced to eliminate rotational "slop" if it has developed. With your knuckled side rods not only the holes in the rods, but the rivets wear.

Lindsay Diesel Trouble

▶ Ever since the universal shaft between the two trucks of my Lindsay dual power diesel dropped out and was lost, I have been having trouble with the unit drawing excess power (according to the ammeter) and overheating (according to the smoke). I feel that this is because I replaced the shaft with a length of neoprene airplane gas-line tubing, but can you suggest WHY this happens and how it can be prevented?—Joseph J. Williams, Jr., Jacksonville, Fla.

ANSWER: To begin with you should not lose the Lindsay universal shaft with its nylon couplings. These should be adjusted so that there is practically no play between the two ball joints when trucks are fore-and-aft. If original shafting has been cut too short, it can be replaced with a piece of drug store swab stick of about the same diameter. Also the slots in the two universals should be at right angles to each other.

The Lindsay power truck is especially sensitive to overloads such as this tubing puts on the motor, being a high speed job. Replace with the regular Lindsay coupling (which you may have to order from the factory) or a piece of fibre tubing such as Varney uses.



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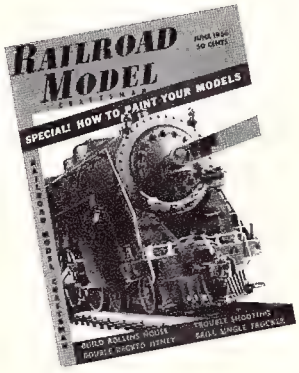

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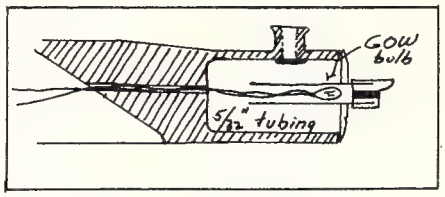
HEADLIGHT FOR VARNEY STEAMERS

By John Poor

INSTALLATION of a working headlight in a Varney steam locomotive of the "old school," i.e., with separate headlight and bracket, often results in a grain of wheat bulb protruding from the front of the drilled out headlight shell and wires running back under the running boards. This exposed position of the GOW bulb not only does not look well, but exposes it to breakage. The following scheme has been worked out and seems to meet most requirements.

The headlight *bracket* is discarded or placed in the junk box. The headlight itself is drilled all the way through with a 3/32" drill. It must be held by top and bottom or by the ends of the "number boards" with pliers while doing this to prevent damage to the fingers of the driller. The front of the smokebox is also drilled 3/32" in exact center, using 00-90 tapped hole meant for headlight bracket as a guide. If boiler weight is directly behind smokebox front as on some locos, drill right on back into that about 1/2" or so.



Take a length of 3/32" o.d. brass tubing (obtainable at hobby shops) and drill out one end to let a GOW bulb slip in. These have a theoretical diameter of 1/8", the i.d. of the tubing, but you usually have to drill with a No. 30 or even No. 29 drill, both a little over 1/8" diameter. Drill back from 1/2" to 1". Slip end of tubing into drilled out headlight, mashing end very slightly if necessary to make a snug fit. Cut off tubing to let at least 1/2" extend INTO smokebox. Drill right on through boiler weight using smallest drill you have that is long enough.

Now take an 18 volt GOW bulb (for longer life than a 12v. bulb), bare ends of leads, and solder piece of stiff wire to both and thread leads through hole in boiler weight. Cut off soldered ends of wire, and scrape off insulation again. One lead may be soldered or screwed to inside of boiler, other lead should be soldered to hot brush of motor, the one to which lead from tender comes.

Pull bulb well back into tubing which should be pressed well into smokebox front (a bit of cement may help here). Then wedge a bit of wood in rear of hole through boiler weight to keep bulb in place. Mount boiler to engine and you should have a nice, not too bright, working headlight.

"Off'n the Table Top"

News and Views of TT

By Glyn Lewis

BEFORE we get to anything else, we want to announce the winner of the Power Pack (First Prize) in our photo contest at the N.Y.S.M.E. show. The winner is Mr. Robert Sigman, of 254 Union Street, Jersey City 4, N. J. Congrats Bob, you got some good shots under rather difficult conditions. Mr. Sigman's photo shows an H.P. Pacific pulling a couple of coaches out the station at New Heaton past Kemtron hoppers on the coaling station siding. The second photo of Mr. S's here shown is of the Hudson & Mohawk's doughty 0-6-0 (a slightly revamped H.P. product) swinging around a curve on the mountain division haulan H&M box car (by Paul Arnold, 4040 Tildon, Culver City, Calif., a NEW TT manufacturer) followed by a "scratch built" box car and Kemtron all metal hoppers. Next month we will print some more photos taken at the show. While we are on that subject, it seems a shame that more model railroaders don't get a little more "camera wise." They are missing a great deal of the fun of the hobby. Don't think that it has to be expensive. The cheaper cameras can do the job too, but the important thing is to know what your camera can do. We saw many fans shooting pictures with box cameras by available light. We had two 300 watt bulbs illuminating the display. Seemed nice and bright to the eye, but not enough for a slow lens and verichrome film! 3.5 with Tri-X yes, verichrome with flash yes. Another thing, how close can you get without supplementary lenses? With 35mm., usually about 3½ feet, but if you are using flash at this distance you will burn up your subject and foreground. Find out what your camera can do, get a couple of inexpensive close-up lenses (also called portrait attachments) and see the fun you can have.

Watch For!

All brass cars from a NEW TT manufacturer, Johmar of Bridgeport, Conn. The first will be a High Sided Gondola, to be followed by other standard types. The gon should be ready as you read this. New improvements from H.P. Products, spoked drivers for the 0-6-0 and consolly, and in response to your many demands, maybe even some smaller type locos . . . Good news!

Robert McMinis has come up with a very fine product for all you "Code 70

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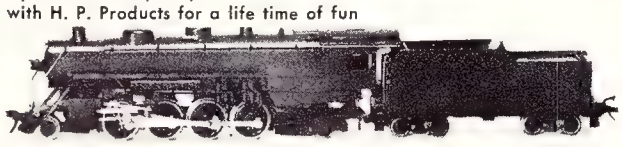

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rail" fans, a complete switch kit available with either brass or nickel silver rail of .070. No. 6, right or left, with fiber tie strip.

From the TT Mail Car

Dear Mr. Lewis:

How can I install TT autocouplers on the Kemtron 0-4-0? It comes equipped with dummy scale couplers and the coupler pockets fit them. I would hate to ruin the cute little guy with an amateur's bungling!

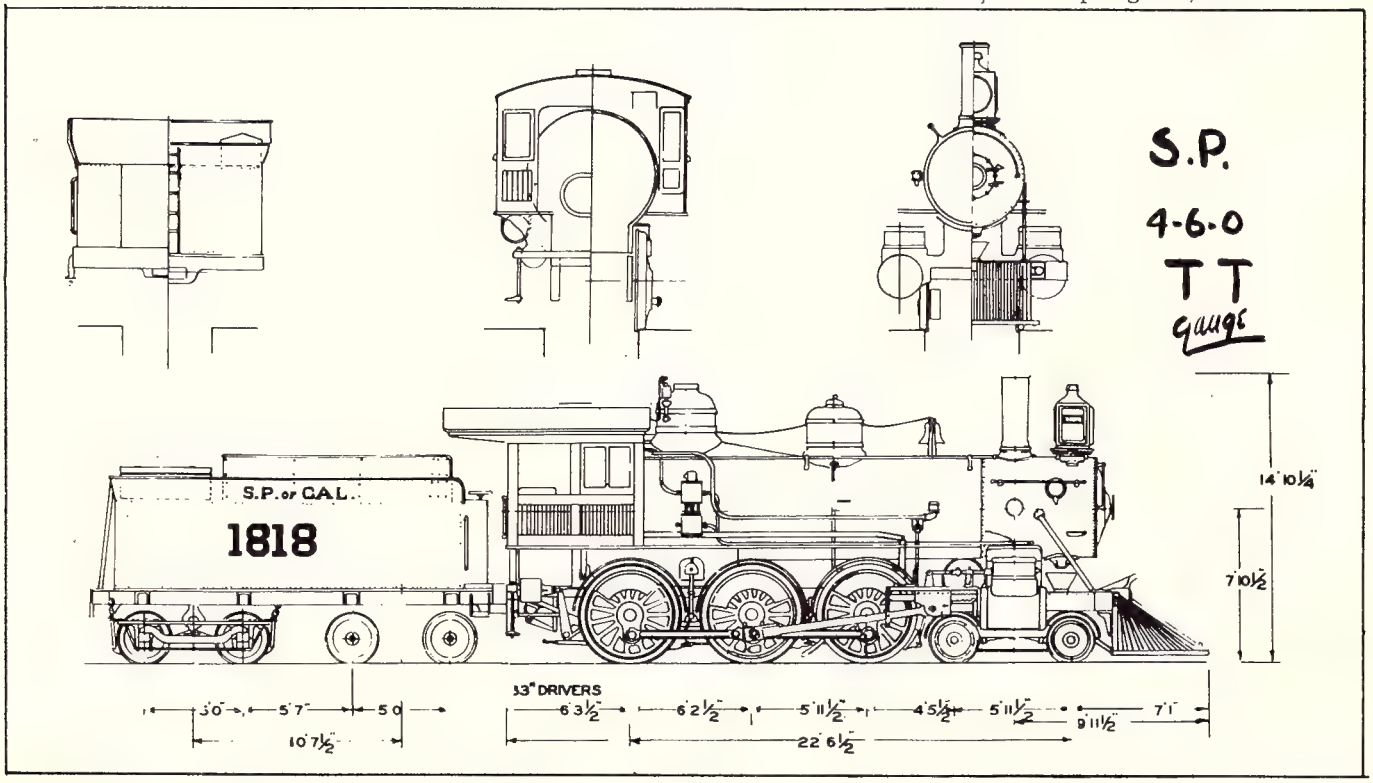
My wife, June, also an avid fan, has come up with a very mellifluous suggestion for the name of the TT pike which the Board of Directors (all both of us) have unanimously adopted: The Tuzigoot and Telluride RR (T&T — hasn't *anybody ever* thought of using the initials of the gauge for a pike herald? The NMRA lists a few TT heralds, but all of HO pikes — for shame!) For nicknames, etc., we will use "the T 'n' T" — "The Little Dynamite."

Keep the column coming, and squeeze 'em for more space. We can always use photos of equipment and pikes in our scale, for inspiration and also to reassure us of the number in the gauge. Your plans are always welcome, are all indexed for quick reference. I'm going to build that Sierra Combine sometime, I promise myself.

Sincerely,
Lloyd Patten.

Thanks Lloyd, always good to hear from you and the latest news of your pike. As to fitting the automatic couplers to the "Tiny Tim," no personal experience, but know of many who have installed them, it calls for a bit of careful filing of the rear step assembly. Yes we have heard of several pikes using the TT letters, but many more use geographic allusions, like our own Hudson and Mohawk due to our proximity to the Hudson River (2 blocks) and the fact that we have traveled the Mohawk Valley quite a bit coupled with the fact that there used to be a Mohawk and Hudson RR. Then there are those that enjoy the sickening practice of the "cute" name, a joke that does not wear well (we think). You know, "The Walltuhwall & Backagin R.R." type of thing.

The following is in part a letter from Pascal R. D'Alise of 186 Lancaster Ave., West Springfield, Mass.



Dear Mr. Lewis,

Feb. 1956 RMC was the first issue of your mag I have bought. Being much interested in TT gauge I was happy to see your page. As yet I have little equipment (have just moved to a larger house, but alas, no cellar, however the builder is going to put up a garage, then I can get down to business. I bought RMC at the suggestion of Mr. J. W. Montville of Fiskdale, Mass. (Box 35) . . . Visited him and he has a layout that really is a knockout! This really proves what can be done in TT. His layout is REALLY *true to life*, there are people tarpapering a roof . . . putting up a TV antenna . . . a clothes line with wash . . . a park cannon and cannon balls . . . fruit stand with fruit . . . a scale on the street . . . fire box on telephone pole . . . chickens, dogs, etc., locos have crews . . . box cars have hobos. . . . It really left me speechless . . . the most amazing layout I have ever seen in ANY gauge! . . . How about a full page of pix of it in RMC? Operation is excellent, all rail is H.P. and the roadbed is AL.CO Hobbies milled wood . . . Cab control with 3 cabs . . . 8 engines and about 35 cars, approx. 100 feet of mainline. . . . Get this in the mag and show that it can and is done in TT!!! Yours, Pascal R. D'Alise.

Well now that sounds like a PIKE! we certainly would like to run a spread on it, hope you or Mr. Montville can get photos to do it justice, we have the editor's promise that if photos are good he'll run them.

Dear Sir,

I would like to use the nickel silver rail as it appears (in color) more realistic. It is my understanding however that this rail cannot be used, particularly in turnouts because of interference with TT trucks.

Etc., etc.

Very truly yours,
J. D. Vaden
10656 Avonbury Ave.
Whittier, Calif.

You have been misinformed, Mr. Vaden, nickel silver rail works fine with TT wheels.

TT Plan

The consensus of opinion, according to your letters, seems to point to the fact that the most wanted loco in TT is the Ten Wheeler. . . . So here's a neat one . . . you might have to put the motor in the tender, but our real, real reason for printing it is to inspire some manufacturers . . . here is the loco TTers want!

Well that winds up another month . . . before we say cherio, just this in passing, month before last on this page we wrote that our mail had "tripled monthly for five years," actually it should have read "yearly," seems everyone guessed this except Mr. Donald B. King who publishes a mimeographed TT paper bi-monthly called TT TRAINS. Don, bless him, has more time than we do, so he figured out the answer to "tripled *monthly* for five years". . . 1 letter the first month, etc., 60 months later . . . we would receive 42,380,000,000,000,000,000,000,000,000 the last month, so sez Don, haven't counted this month's mail, but don't think it's *quite* that many!

Cherio, write, send in photos, see you next month.

Glyn.

. . . but the Egyptians knew it ages ago!

POWERS to overcome sickness! Means to escape poverty! Knowledge to bring happiness and peace of mind! Skill and genius to create a civilization which we still copy today! These are only some of the accomplishments of the ancient Egyptians.

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WANTED: HO equip. in exchange for printing passes, letterheads, etc. Have O gauge engines, list. V. Joerns, 226 Kerlick, New Braunfels, Texas.

FOR SALE: Lionel O gauge in good to excellent cond. List for stamp. Tom Cole, 728 Mercer Ave., Decatur, Ind.

SALE OR EXCHANGE: Lionel No. 624 Switcher; No. 41 Switcher, other Lionel equip. excel. cond. Trade for HO. J. H. Ruby, 3840 W. Polk St., Chicago 24, Ill.

FOR SALE: American Flyer equip. $170.00. $110.00 P.P. Pacific, diesel switcher, cars, track, switches. Locos converted for D.C. Test run only. Don-Hoxie, Kennelbunk, Maine.

SALE OR TRADE: HO logging RR equip., Yardhog, log cars, sawmill kit, etc., need ore cars & hoppers. List for stamp. W. Schwartz, Jr., 424 Sheldon S.E., Grand Rapids, Mich.

EXCHANGE: Bee Line Central Pass for one of yours. Tom Schnapp, 1044 Buckingham, Toledo 7, Ohio.

EXCHANGE: RR passes: Central Tenn. RR. T. F. Ochs, 812 Dewees Ave., Nashville, Tenn.

SALE: "S" gauge scale, 6 Midlin turnouts, 68 ft. "125" trk., 6 frt. cars w/trks., 3 Chester Strmlrs less trks., 8 pr. Baker cplrs., $19. J. E. Legory, 248 S. Allen St., State College, Pa.

FOR SALE: RMC: 1938, 1951, 1953—Complete. Model RR 1939, 1940, 1943. Toy Trains, Jan., July, 1954, Fall & Xmas 1954. All bound, good condition. P.P. to buyer. First money order of $17.00 to: I. Sperling, 1 Fisher Dr., Mt. Vernon, N. Y.

SALE: Lionel layout, app. 50 cars, Peare track, switches, some HO. Other misc. stuff. Send for list. D. Bayer. P.O. Box 625, Bayville, N. Y.

WANTED: buy or trade modern Lionel for Lionel locos: 226, 227, 238, 250, & cars, 260E, 265, 616 & cars, 636 & cars, and 1668; pre-war cars and equip., Lionel catalogs before 1934. Dan Moss, 405 Byron Ave., Jackson Heights, Mobile, Ala.

FOR SALE: TT Mikado & Dockside kits, freight, buildings, etc. $85.00 value for $35.00. Write for list. G. Hillerstrom, 3485 Amber St., Phila. 34, Pa.

FOR SALE: Lionel Standard Gauge with bridge, tracks, switches, etc., engine model 408E, and 7 cars. Write. R. G. Thomson, 1168 Randolph Ave., Milton 86, Mass.

WANTED: for O, HO or TT: I.C.S. radio repair course, electronic flash, Hudson car kits, microscope, NRI radio repair and communications courses, Guitar course, magic books, and Equipment. 3c stamp for list. S. E. LePage, 27 S. Kerema Avenue, Devon, Conn.

FOR SALE: or trade for HO: Lionel gas turbine, freight train and Lionel scout freight train in good condition. Stamped envelope for list. S. Freedman, 13 Anthony Dr., Spring Valley, N. Y.

FOR SALE: AF S gauge. Also switches, extra track, cars. H. Clark, Dowingtown Pike, RD No. 1, W. Chester, Pa.

FOR SALE: Lionel "O" and "O-27" locos, cars, etc., Marx access. Send for list. M. E. Stone, 138 Haseco Ave., Port Chester, N. Y.

SALE OR TRADE: S Rex suburban kit, Midgage Pacific kit. Sell reasonable or trade for any gauge. Want Stinson 2-8-0 loco and C-D 10-wheeler. E. C. Fletcher, County St., Rehoboth, Mass.

SALE OR EXCHANGE: Large quantity of Lionel equip. & 20" radius AF 3 rail curves and switches. For sale or trade for HO. Stamp for list. J. Sullivan, 4530 Claremont, Chicago 25, Ill.

FOR SALE: Hobbytown E-7, and Hobbytown Alco Rd. Switcher. Still in boxes. Changing to O gauge. $14 each P.P. R. W. Kreunen, 109 Shepard Terr., Madison 5, Wisc.

FOR SALE: Bowser Articulated. Still in box. Never touched. Changing to O gauge. Must sell. $37 P.P. R. W. Kreunen, 109 Shepard Terr., Madison 5, Wisc.

EXCHANGE: Passes: Hiccup, Belch, & Burp RR System. S. Yablun, 1139 N. Francisco Ave., Chicago 22, Ill.

FOR SALE: Lionel Cats: 1948-1949 covers off, $1.00 ea., 1950 to 1954. Good cond. $.75 ea. AF Cats. 1952-1954. Ex. cond. $1.00 ea. All 10 for $6.00. K. Wagner, 1309 N. 11th St., Reading, Pa.

FOR SALE: HO Varney Trainmaster set "A" unit Brute diesel, dummy "B," 10 cars, track, powerpack. $30. R. Florkowitz, 1002 Bruckner Blvd., New York 59, N. Y.

FOR SALE: Mant. Mike, w/light, $20.00; Varn F-3 A&B Diesels, both powered, w/lights, $16.00; Mant. Shifter, $10.00; all in excellent running condition with Mant. coup; all 3 for $45.00. T. C. Tarpy, 406 Grange St., Phila 20, Pa.

TRADE: Model airplane eng. K-B Torp. 29 excel. and O&R 23 good cond. for HO Lindsay or Varney F7 A & B unit or Scintilla Dynapack 111 or Varney ready-run set. J. A. Howell, 317 Salisbury Ave., Albemarle, N. C.

TRADE: HO for TT. Overseas transfer forces switch to smallest gauge. HO worth $250. Brand new. all or part for TT eng., cars, track, switches. Cant. W. W. Colebank, S.F. Ordnance Dist., 1515 Clay St., Oakland 12, Calif.

FOR SALE: Hobbytown Also Rd. Switcher w/dual dr. $15.00. Four wheel brass power truck w/DC-71 motor $5.00. C. Miller, 309 View, Covington, Ky.

SALE OR EXCHANGE: Darkroom equip., Argus C3 lens, micrometer, etc. Trade for HO equip. Send stamp for list. D. D. Cornell, 3422 Tulane Dr., Apt. 33, W. Hyattsville, Md.

EXCHANGE: Custom lift bridge five feet long for "O" gauge K&D motors, will buy "O" gauge scale engines, hopper and tank cars, describe and price first letter. C. Bowman, 1917 College St., Columbia, S. C.

WANTED: Lionel std. obs. No. 416 brown only, letters New York. Must look like new. No repaint jobs, no junk. Trade Lionel std. electric type loco No. 9E for it or pay cash. J. Schiffer, 70 S. 9 St., Brooklyn 11, N. Y.

FOR SALE: Penn Line Monon box car. Worth $3.50. Never used. Sell for $2.50. U. J. Aierer, R.D. 2, Box 519, Altoona, Pa.

FOR SALE: Model R.R. Mag., "Whistle Stop," O Gauger, Lionel and Amer. Flyer catalogs, Model Builder, Model Craftsman. Send stamp for list. S. J. Hatsch, 3326 Bowman St., Phila 29, Pa.

FOR SALE: HO mantua mikado, switcher, English mikado, 14 cars, 5 trans., rect., switch controls, mags, misc. parts. Sell for $55.00 B. Thom, Box 801, Emmet House, Charlottesville, Va.

EXCHANGE: Passes: Rhine Valley R.R. R. Guyot, 1325 2nd St., Brookings, So. Dak.

FOR SALE: HO Penn Line 1-1 Decapod $25, Scintilla Dynapack $17, assorted freight cars, elec. equip., stamped envelope for list. John Butler, 435 N. Allen, S. Bend, Ind.

FOR SALE: 3 PSM Brill trolley kits $10.00 ea. L. Foitl, 2437 Scoville Ave., Berwyn, Ill.

FOR SALE: Hobbyline diesel, 5 frt. cars, Atlas snap track, $50.00 transformer. Like new. P. Smith, R. R. No. 3, Orillia, Ontario, Canada.

FOR SALE: Varney Hudson, brass, new 1949 kit; Tenshodo Hudson, blt up, excel.; Mantua 0-6-0 pre-war brass frame, Big Six boiler, handmade tender. Make offer. R. E. Hornish, 17 W. Mill Dr., Great Neck, N. Y.

FOR SALE OR EXCHANGE: HO Tenshodo 0-6-0, $10.00. Varney dockside good condition, $9.00. 39 pr. MDC couplers, $4.00. M. J. Forrest, 1061 Sixth St., Salem, Oregon.

SALE OR TRADE: Entire collection 616/620 steam loco negs; pics; model rail mags for cash or O gauge locos. List for stamp. Douglas Bristow, 733 E. Brookline St., Winston-Salem, N.C.

FOR SALE: 60 HO frt. cars assbld. w/c & trks. Will send pd., as is, at $12 doz.—better at $18 and beauties at $25. My choice. W. Merkle, 6453 Forest Preserve Dr., Chicago 34, Ill.

EXCHANGE: 22 Cal. bolt action Hopkins-Allen Rifle; strap, cleaning rod, 250 rounds ammo., $30.00 value. Want HO. What have you? Will ans. C. Erskine, 6 Willow Dr. Northfield, N. J.

TRADE OR SELL: For TT: HO layout—5 locos, 30 cars; Snaptrack, 13 Atlas remote control switches, etc. Stamp for list price. Mrs. D. W. Rutherford, 3143 Willis Ave., Cincinnati 8, Ohio.

EXCHANGE: Passes: Cliff Shortline RR. Also want narrow gauge pix, plans, equipment, etc. T. Moeller, 3315 Fremont Ave., No. Minn. 12, Minn.

TRADE: Old muzzle loader rifle, Japanese gun for A.F. S gauge locos in broken or old condition. Floyd Lewis, 38 St. Charles St., Johnson City, N. Y.

FOR SALE: Marnold power pack B-85 $28, or best offer, 2 Turbo et switch mach. $2, HO cars, switches, etc. Michael Cotter, 2500 Davisson, River Grove, Ill.

WANTED: Marklin HO slip switch, switches, semanhores, W. Rohrs, 81-06 34th Ave., Jackson Heights, N. Y.

FOR SALE: "O" ga. scale locos and cars. List for stamp. Ed. DeMarco, 1150 60th St., Brooklyn 19, N. Y.

FOR SALE OR TRADE: Brand new R. F. Signal Generator, radio and TV books worth $60. For HO engines, cars, what have you? Write, Darrel Moser, Schaffers Trailer Ct., Jamestown, N. Dak.

TRADE: Varney 4-6-0 Ten wheeler, sup. detailed Vandy tender. Want Hobbytown Alco switcher. J. L. Aherne, 218 Warren St., Apt. 3, Norfolk 5, Va.

FOR SALE: Lionel 671 turbine $13; 2411 Flat $2.50; 2420 caboose $3; 2460 crane $5.50; 2465 tank $2; 93 water tower $1. All plus postage. Excellent condition. Doug Miller, 2236 Marlowe, Toledo 13, Ohio.

TRADE OR SALE: Paige-Pak Power Supply, Atlas track, switches, RDC's, Globe diesels. Want Mike or Artic kits or sell. All excellent. L. M. Baukin, Box 1222, Norfolk, Va.

SELL OR TRADE: Lionel catalogs 1930 to date, one 1917. 2957 caboose, 711 tubular switches. Want std. 381 E loco, 400 series pass. cars and 840 powerhouse. Stamp for list. Joseph Rudley, 711 N. 6th St., Philadelphia 23, Pa.

WANT: Lionel scale O gauge, O-72 solid rail track, switches, prewar tinplate, catalogs. W. J. Dronck, 1339 Alameda Ave., Glendale 1, Calif.

SALE OR EXCHANGE: Portable double track layout 12 ft. long, 2 crossovers, control panel & power pack. Jim Parker, Jr., 410 Glengarry Ave., Toronto 12, Ont.

WANT: Nason "OO" ga. Hudson boiler, cylinder block, parts, decals, or assembled. O. A. Parris, 1019 13th St., Bremerton, Wash.

TRADE: One R.R. lantern needs wick, motor unit for Lionel 253E Steeple cab loco, Jan. '50 to date RAILROAD MODEL CRAFTSMAN for 3350 series Marx cars. Clinton A. Adair, 808 Clark St., Vicksburg, Miss.

WANT: Ambroid combine or baggage kit, Umpco RH 24" radius curve switch. Have Ambroid coach kit, other car, building kits to trade. Dr. Geo. Foss, 709 N. Spring Ave., LaGrange Park, Ill.

WANT: 4 Atlas r-c snap-switches, snap track, etc. Will trade Lionel equip; 623 diesel switcher, 2-4-0 engine, tender and cars, transformer, custom bilt baggage and combin. cars. D. E. Soule, 5 Belmont St., Amesbury, Mass.

FOR SALE: Scintilla Dynapack, $20 or best offer. Four log buggies with logs $8. Bob Doligale, 10514 S. Maplewood, Chicago 43, Ill.

FOR SALE: HO locos, cars, built up and kits. Too many items for small layout. Want Mantua, Mogul Reading Atlantic, Pacific kits. Stamp for list. W. Miller, 2904 N. Rogers Ave., Baltimore 7, Md.

FOR SALE: Model Railroader Magazine Nov. '54 to Feb. '56 with exception of Dec. '54 and Mar. '55, $3.50 pp. 3c stamp for answer. R. Zykofsky, 37 Sycamore St., Belmont 79, Mass.

WANT: Lionel pass. cars 2623-24-25-27-28. Also post war catalogs to include 1952. State price, condition. Ralph E. Shank, RD 2, Huffman Rd., New Lebanon, Ohio.

FOR SALE: Mantua Pacific $19.50, Varney Casey Jones $13.50, Hobbytown E-7 A unit $15, Walthers Shuttlejack $14.50, Globe F-7 Dual Power $10, all assbled, unpainted. Penn Line Pacific kit $24.50. W. A. Diehl, 3610 E. 46th St., Kansas City 30, Mo.

FOR SALE OR TRADE: 10 O gauge kits ¼" scale, Auel tinplate wheels, O gauge scale track, Weeden steam engine. Trade for O or std. engines and cars—or cash. C. S. Weiler, 83 Parkview Ave., Stoughton, Mass.

FOR SALE: AF S ga No. 342 DC, 0-8-0 loco, best offer over $20; No. 282AC, 4-6-2 $10; locos in excel. con. $15; directronic rectifier $6. Thomas Schier, RD 1, Box 111, Monaca, Pa.

TRADE: Lionel "027" Scout loco and tender, 8 frt. cars, MKT diesel No. 600, 2 man. sw., 2 r-c track, trans., etc. Trade for AF diesel, cars, steam loco. Arthur Bullhorse, 1017 Virginia St., N. E., Albuquerque, N. M.

TRADE: Lionel and AF std. ga. engs., cars and track, HO layout incl. Mantua Pacific, Shifter and Booster, misc., for Lionel O or O27 equip. Diesels, or what have you. My list for yours. R. C. Shaffer, 27 Lance Dr., Charleston, W. Va.

FOR SALE: No. 342 AF 0-8-0 AC steam type switcher and tender w/cc and smoke and knuckle coupler. Best offer takes it. Slightly used. Jerry Seybold, Bennett Rd., Dunkirk, N. Y.

SALE OR TRADE: Lionel sta. ga. 8E loco, cars, track, also 2 Dorfan frt. cars. Trade for Mantua Yardgoat HO, new or used, and HO cars with Mantua couplers only. List upon request. Bob Miesner, 5624 S. King Hwy., St. Louis 9, Mo.

FOR SALE OR TRADE: Thomas 0-4-0. Needs handrails and piping to complete. Swap for Fleming cars. Prefer someone in Boston area. Ralph Lapadula, 10 Magnus Ave., Somerville 43, Mass.

TRADE OR SELL: AF S ga. 4-8-4 Union Pacific w/smoke; 16 cars and pullman; track; switches, misc. Want HO or movie camera, projector, or best offer. Write for list. Lyle B. Woodward, 34 Woodland Ave., Poughkeepsie, N. Y.

TRADE: WW1 Austrian Steyr army rifle, Italian army carbine, 1935, 1939 Lionel cat. for Lionel std. ga. twin motor No. 42 in running condition or what Lionel std. ga. have you? Joseph R. Cirillo, 37 Logan St., Auburn, N. Y.

WANT: Lionel 027 steam or diesel locos, any cond. Also pass., frt. cars, access., any cond. Send list and price. R. Thomas, 170-44 Douglas Ave., Jamaica 33, L. I., N. Y.

FOR SALE: Erie diesel outfit—4 frt., $30, No. 397 diesel coal loader, $7. Excel. First reply takes. K. Rower, 11 Maplewood Ave., Newton Centre, Mass.

SELL OR TRADE: 30 Atlas switches No. 4 and No. 6, Ladder switch assembled, Mantua 3 way switch. Sell or trade for car kits or what have you. Stuart Elwing, Campbellsport, Wisc.

SELL: HOn3 0-4-0 Kemtron dockside for $14. L. R. Ronne, 2515 Normal Ave., Fresno, Calif.

FOR SALE: Magazines; Trains '55, MRR '55, RMC '55, MT '55—Extras—HO frt. and pass. cars. One junk box valued at $13. Ronald Tenney, 68 Murray St., Binghamton, N. Y.

FOR SALE: OO equip., new cond. Send for list. C. Esterman, 123-02 23rd Ave., College Point 56, N. Y.

SWAP: Want scale O gauge engines, frt., pass. cars, switches, etc. Also back issues model magazines showing O gauge diagrams, hook ups, articles, Will swap $350 scale HO train equipment, built up, some kits. Send lists. L. Zlochenko, 168 E. 93rd St., Brooklyn 12, N. Y.

TRADE: O Varney dual-drive diesel switcher, for small steam loco—14 minimum radius. Steve Sandknop, 5200 Glennon Dr. ,St. Louis, Mo.

FOR SALE: Lionel switch engine model 623 only $10. Transformer type RW only $5. W. P. Noble, Jr., 98 Cottage St., East Berlin, Conn.

TRADE: Polar bear and arctic wolf-skin rugs for O and HO scale equip., metal turning lathe and metal working tools. Details on request. H. L. McConnell, 1810 Hermosa Dr., N. E., Albuquerque, N. M.

FOR SALE: 3′ x 8′ Marx layout, two sw., track, reinforced, with rollers, painted pink, Marx O gauge, AMT Santa Fe twin diesel coach, vista dome and obs. pass. cars. Cost over $40, sell for $25. David Green, 824 Colorado, Chickasha, Okla.

WANT: Lionel TW, KW or ZW type trains. Must be good. Also want Post Sugar Crisp railroad heralds, match boxes. Bill Hoerger, Dundee, Ohio.

WANT: Faller bldgs. Advise catalog number if possible, price. Frank Ronemus, Charlestown, W. Va.

SALE OR EXCHANGE: Stamp collection, 3000 stamps, acc. Want RR layout in any ga. over $100 or highest offer. Don Wolcott, Box 115, Hesperia, Mich.

SELL OR TRADE: 6 Lionel frt. cars, 6019 track set. Sell for $20 or swap for Mantua Mike, or other HO engine. Walter Sakowich, Jr., 18 17th Ave., Haverhill, Mass.

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SWAP: Model airplane engines O & R 19, 23, super cyclone, access. Want Globe power unit, Hobbytown E-7 A & B. John Doyle, RD 1, East Greenbush, N. Y.

FOR SALE: O a. trk ga, pr. Athearn box car sides, 2 pr. Walthers pass. trucks, 2 pr. Walthers tinplate frt. trucks, 3 JC pass., no trucks, Athearn box unfinished, hdwe. First $10 takes all. W. J. Smith, 505 E. Hamilton, Allentown, Pa.

WANTED: Portable Lionel gantry crane. Ted Rassier, River St., Greenville, N. H.

WANTED: O, No. 1 std. ga. all makes foreign HO. Cash or trade. Have AF HO Hudson and pass. E. Fargeorge, 32 Perkins St., New Haven, Conn.

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FOR SALE OR TRADE FOR HO: Old railroad pass. timetables dated 1898-1900, many pictures most large RR's available. Send for list. E. G. Styer, 6101 Fairview Rd., Hollister, Calif.

FOR SALE: $150 Lionel 027 ga. equip., $60 takes all, scenic access., etc., or will separate. Equip. like new. Send stamped envelope for list. Carl Shaffer, 443 N. Market St., Ligonier, Pa.

FOR SALE: HO RR cars, switches, crossovers, plus Science mag. back issues. Also radio tubes. Send stamp for complete list. Donald Lamb, 532 Ontario Ave., Renovo, Pa.

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FOR SALE: Lionel trainmaster transformer $20. Lionel 027 two cars and caboose, track, AF 2 cars and caboose, 12 track, Lionel $15. AF $20. Barry Klingel, 64 S. Kistler St., E. Stroudsburg, Pa.

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FOR SALE: Marx trans. 85, 50 watt. Tom Shultz, 442 George St., Ridgeville, Ind.

EXCHANGE: 16 mm movie equip., excel. cond. for Lionel trains or access. Just starting. Send card for list. W. P. Eddings, 2629 Bedford St., Johnstown, Pa.

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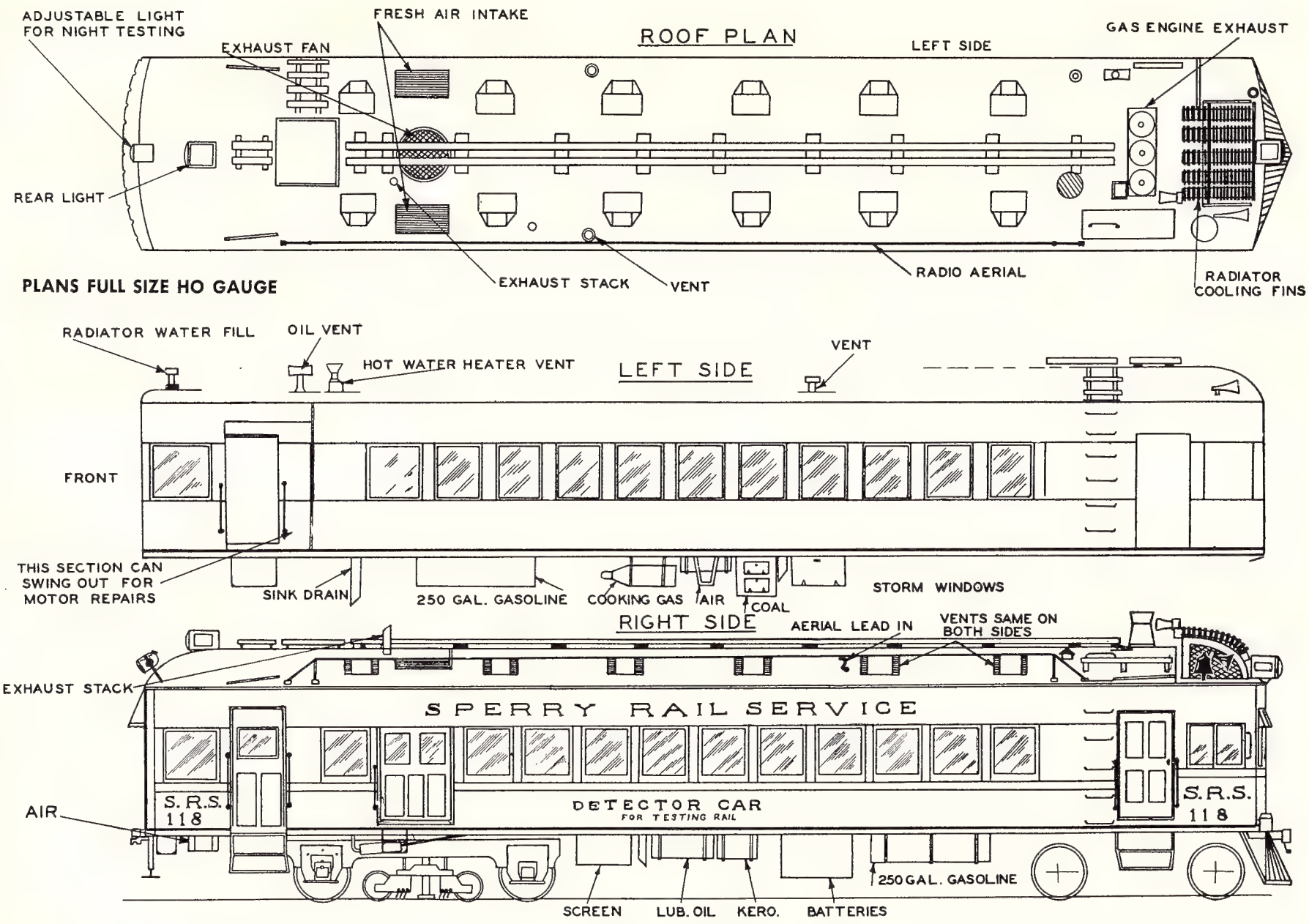
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If your local dealer does not stock copies of Railroad Model Craftsman each month or if he continually runs out before you can obtain your copy, send us his name and address. We'll make sure he receives a complete supply of Railroad Model Craftsman magazines each month, just as soon as they are issued. Put the name and address of your dealer on a post card and send to:

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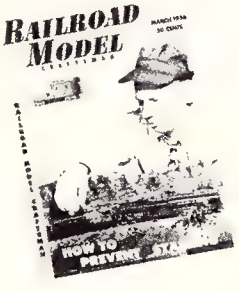


RAILROAD MODEL CRAFTSMAN

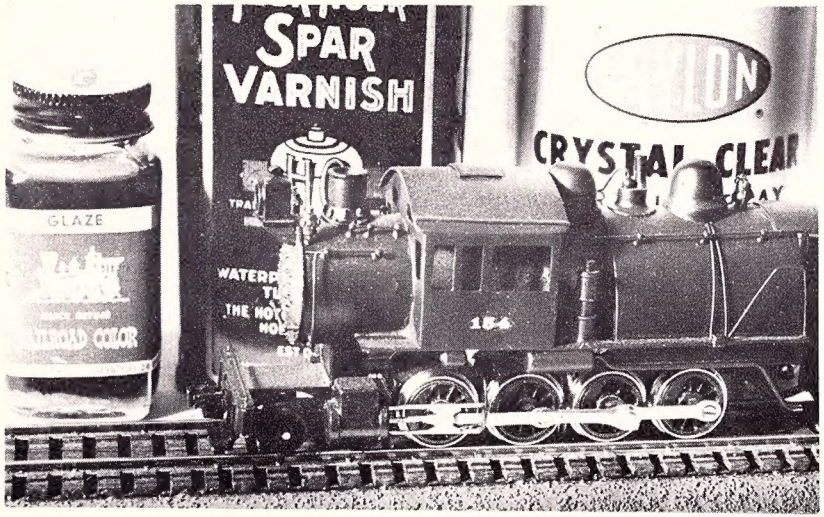
PATRONIZE YOUR LOCAL DEALER

TO SUPPLY YOU WITH THE LATEST AND BEST

9—Chemical base paints are flowed on. Avoid brushing. Puddling around rivets, detail is natural, will dry in very thin coat with dull finish. . . .

10—Clean brush when finished with thinner. Brush should not be stood up with brushtip in down position. . . .

11—After applying decals (see Lesson 6), coat with spar varnish, Glaze, or any clear fixative to protect both paint and decals. . . .

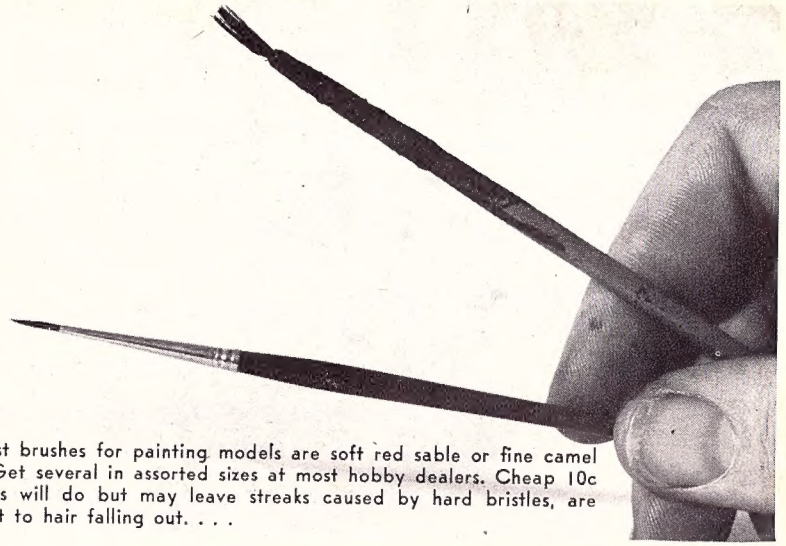


FOLD HERE AND PUNCH FOR BINDING

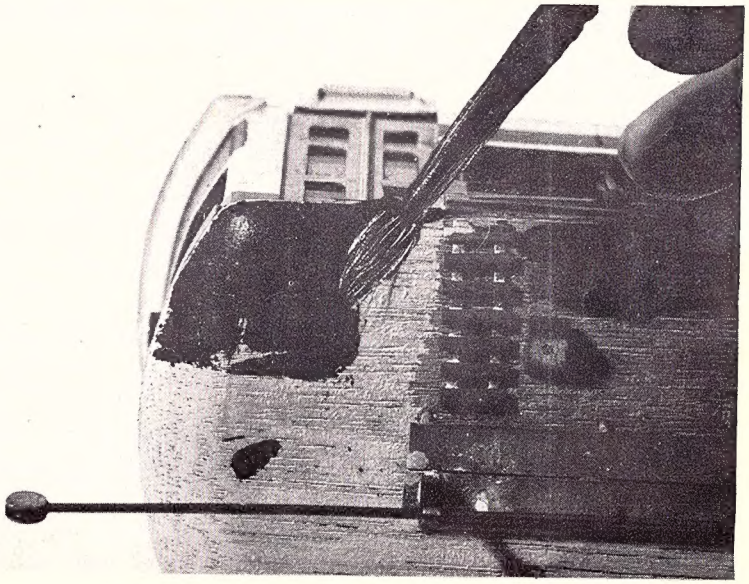
picture lessons in model railroading

Brush-painting Your Models

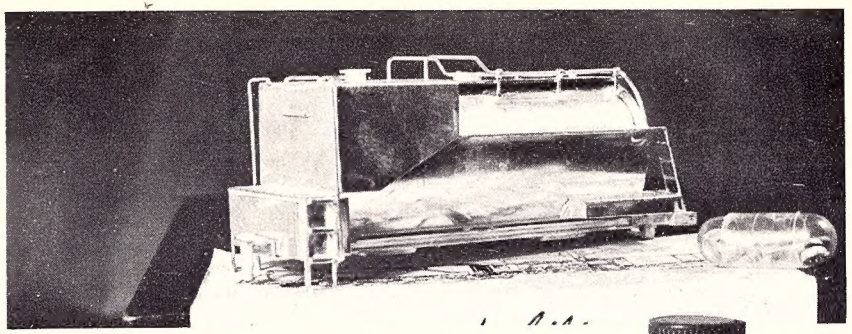
RAILROAD MODEL CRAFTSMAN course no. 7



1—Best brushes for painting models are soft red sable or fine camel hair. Get several in assorted sizes at most hobby dealers. Cheap 10c brushes will do but may leave streaks caused by hard bristles, are subject to hair falling out. . . .



2—Wood and some cardboard surfaces soak up paint, resulting in flat porous finish. If possible, give base coat, sanding thoroughly when dry. . . .

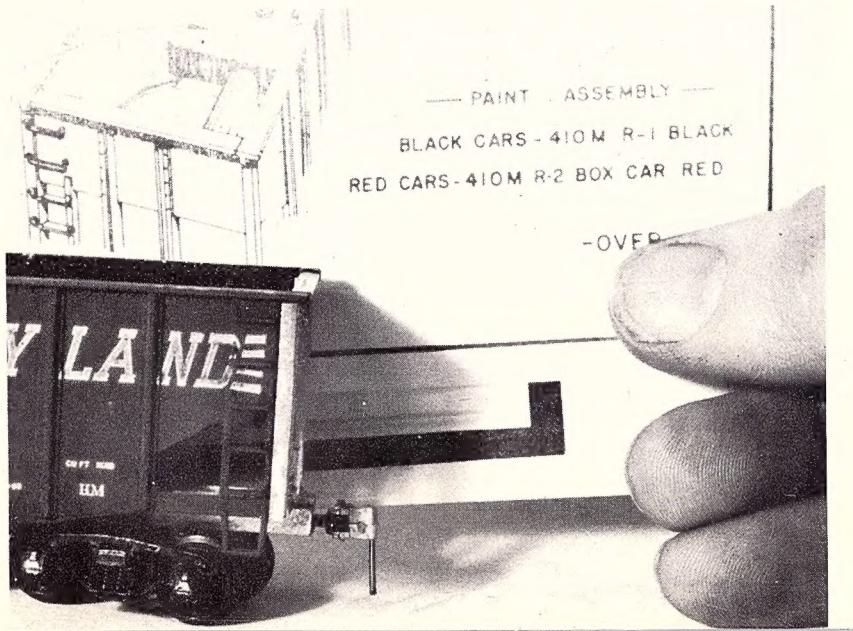


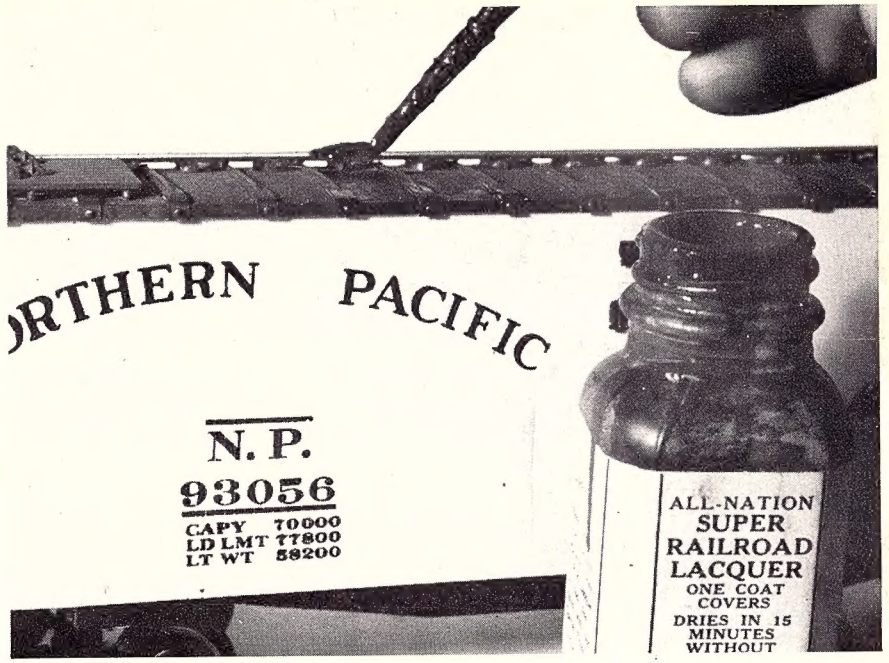
3—Metal models should have oil and grease removed in cleaning bath before painting, to prevent paint chipping and peeling. Deturgents, mild acetic acid solution, or even vinegar will do. Base coat is also recommended, especially on brass. . . .

4—Some model paints have solvents in them which will react with certain types of plastic, causing marring, reticulated effect. Test plastic with paint on hidden inside surface before painting. If unfavorable finish results, use different brand of paint on plastic models. . . .

5—If paint seems too thick, use thinner recommended by manufacturer of paint. Different bases of model paints by different manufacturers require use of varying types of thinners. Most paints should have consistency of heavy cream. . . .

6—Many kits are partly prepainted. Use of paint other than that recommended by kit manufacturer may result in model with undesirable two tone finish. . . .

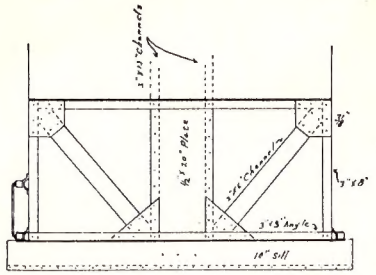


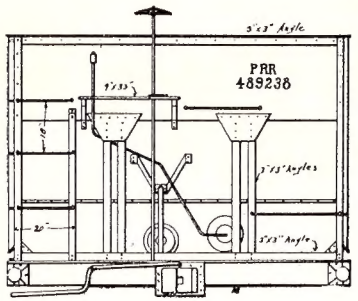


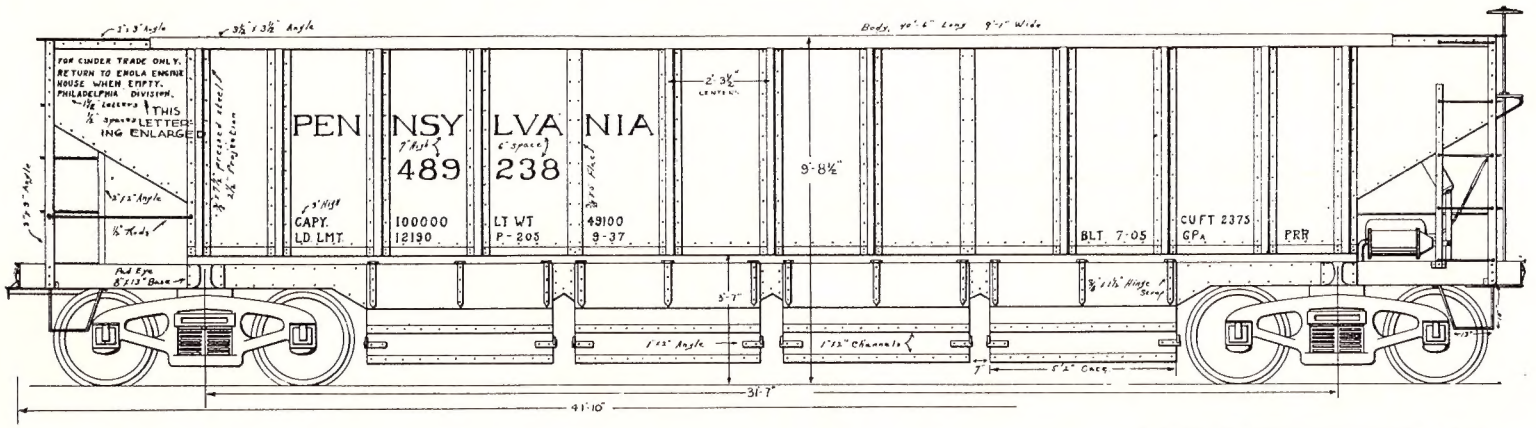
7—Oil base paints should be brushed on in very thin coat, giving second coat if required when first is completely dry. Avoid heavy coat, brush paint out, completely. . . .

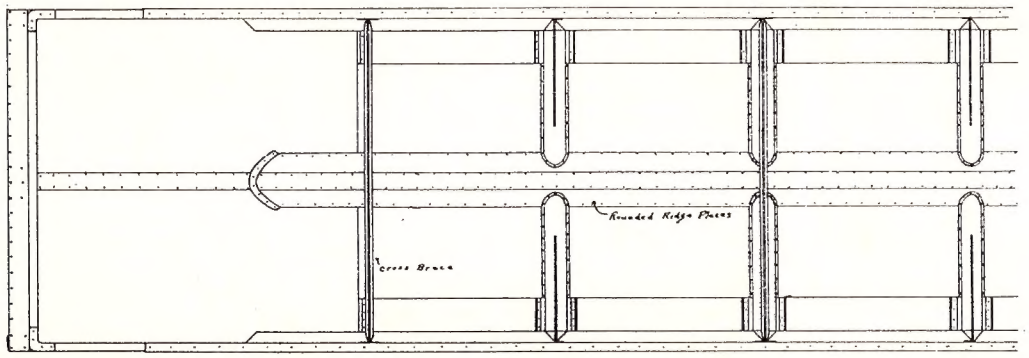
8—Plastic base paints usually cover in one coat. Apply paint thick enough to cover in one coat, avoid unnecessary brushing. . . .

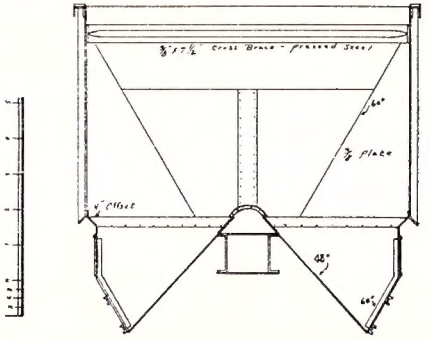
CINDER CAR











Full Size

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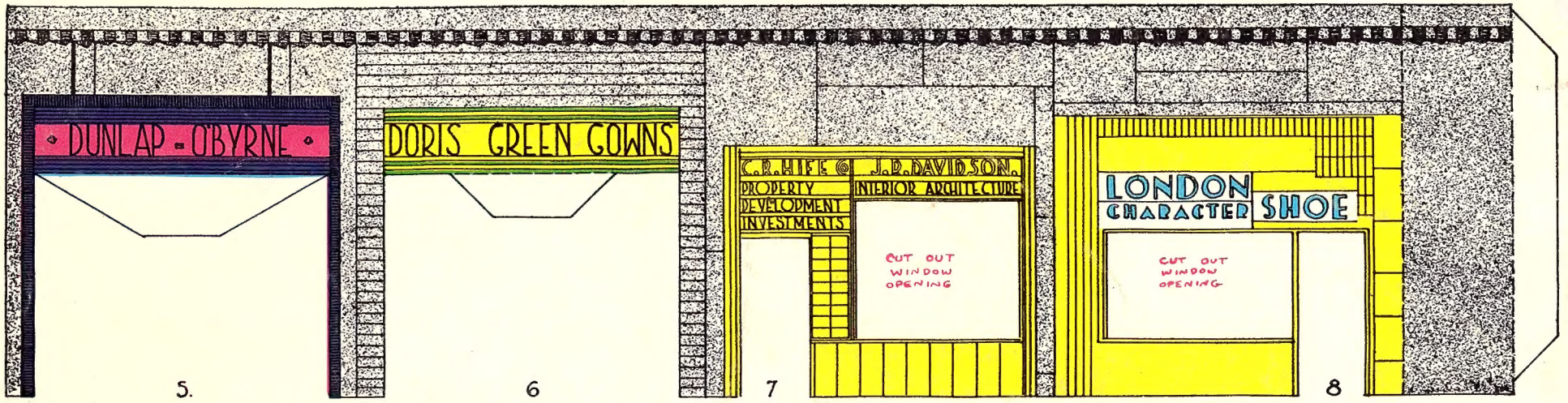

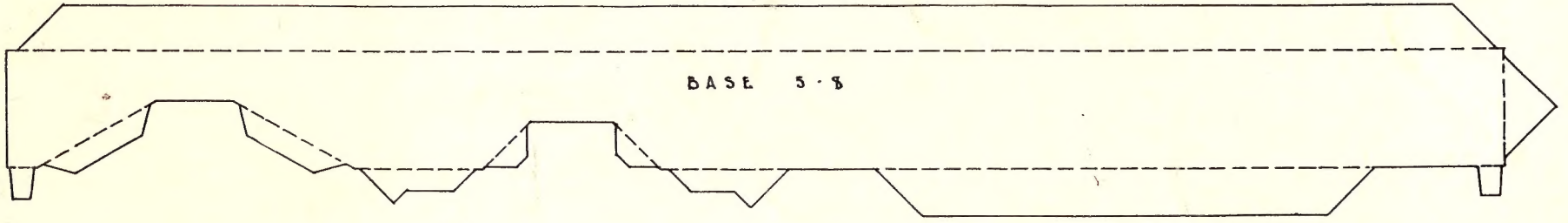

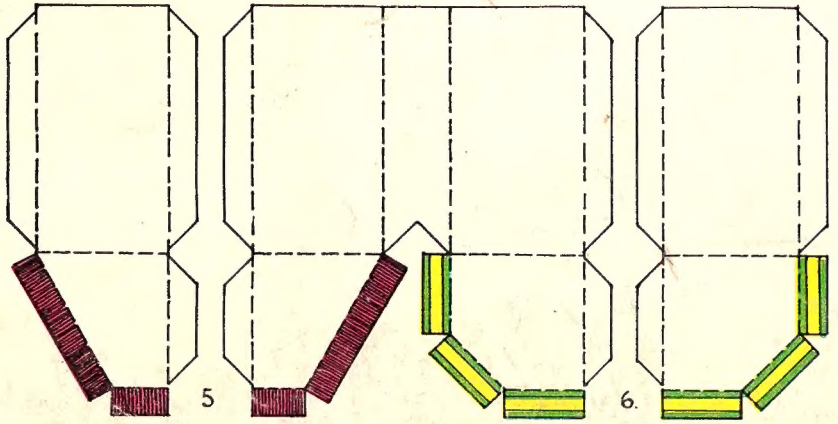

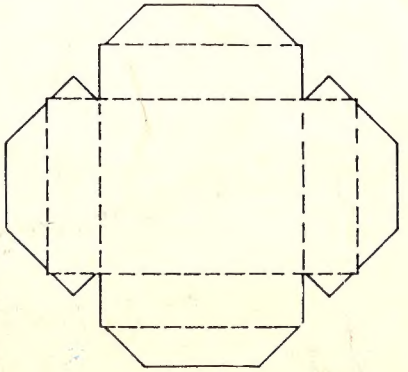

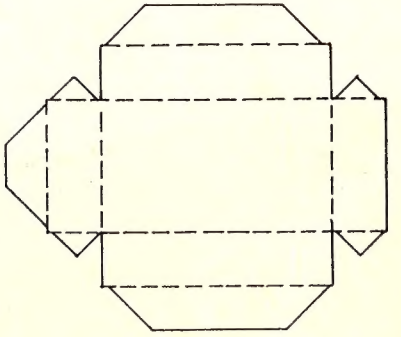

PART II
PART I APPEARED IN, MAY 1956 ISSUE

RMC 6-56